



hp scanjet 7400c series scanner user's manual



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1 Getting started

This section contains the basics to help you get started with your new HP ScanJet scanner. From here, you can learn about viewing the product tour, preparing items before you scan them, and choosing which scanning method to use.

Printing this information

You can print this PDF manual using the **Print** command on the **File** menu. Print the whole document, or print only the chapters or topics you want according to their page numbers. See the table of contents for page numbers of topics.

Viewing the product tour

The product tour is a fast and easy way to explore the capabilities of the scanner and see some interesting ways you can use the scanner to meet your needs. The product tour, which only takes three minutes, begins automatically when you start the HP PrecisionScan Pro software for the first time.

To view the tour at other times: In the HP Scanning Software folder, double-click **Product Tour**.

Where do I start?

You can start scanning from one of these places:

- the scanner buttons
- the HP PrecisionScan Pro software
- another program
- the HP ScanJet Copy Utility

Where you start depends on what you want to do with the scan and on your own preferences.

Using the scanner buttons

Use the scanner buttons, which are shortcuts, when:

- You want to start at the scanner.
- You want to scan quickly without making changes.
- You want to scan an item using the default settings optimized for the destination you choose.

See ["Scanning from scanner buttons" on page 15](#).

Using the HP PrecisionScan Pro software

Use the HP PrecisionScan Pro software when:

- You want to view or change a scanned image before you send it. Changes might include resolution, cropping, or resizing.
- You want to send to a destination, such as a desktop publishing program, but there is no button on the scanner for that destination.

See ["Scanning from HP PrecisionScan Pro" on page 29](#).

Using another program

Start scanning from within another program when:

- You want to bring a scanned item into an open program, such as your word-processing program.
- The program in which you are working is compliant with TWAIN or the HP ScanJet Plug-in (which is an Adobe® Photoshop® plug-in). A program is compliant if a command like **Acquire Image** or **From Scanner** appears on a menu such as the **File** menu. If you are unsure whether your program complies with TWAIN standards or supports Photoshop plug-ins—or you do not know the command for inserting a scanned item, see the documentation for the program.

See ["Scanning from other programs" on page 64](#).

Using the HP ScanJet Copy Utility

Start scanning from the HP ScanJet Copy Utility when you want to make copies and need to make standard copy adjustments, such as reducing or enlarging or lightening or darkening. You can also choose a printer other than the default.

To start the utility: in the HP Scanning Software folder, double-click **HP ScanJet Copy Utility**. For help using the utility, move the pointer over the button or option to find more information about the feature.

Selecting and preparing items

Before placing items in the scanner, follow these guidelines for selecting and preparing them to prevent damage to the items and the scanner.

Items for the scanner glass

The scanner glass can scan the widest range of items, including:

- Paper items
- News clippings, receipts, and business cards
- Items on all weights of media, including media lighter than 60 g/m² (16 lb) or heavier than 105 g/m² (28 lb)
- Gum-backed paper
- Multipart forms with carbon pages
- Old or worn photographs or documents
- Items containing tears, perforations, punch holes, wrinkles, or curls
- Flatter, three-dimensional items such as pages in books, fabric, and paper with texture

CAUTION Avoid placing items with sharp edges in the scanner. Doing so can damage the scanner.

Before placing an item on the scanner glass, make sure the item is free of wet glue, correction fluid, or other contaminating substances.

Items for the ADF

The HP ScanJet automatic document feeder (ADF), which is a fast, convenient way to scan multiple-page items, is included with some scanner models, or it can be ordered. The ADF accepts items that meet the following specifications:

- Items on standard Letter-, A4-, and Legal-size paper
- Items consisting of up to 50 unbound pages
- Items ranging in size from 148.5 by 210 mm (5.8 by 8.3 inches) to 215.9 by 355.6 mm (8.5 by 14 inches)
- Items ranging in weight from 60 to 105 g/m² (16 to 28 lb)
- Items that are square or rectangular and in good condition (not fragile or worn)
- Items that are free of tears, perforations, or punch holes
- Items that are free of wet glue, correction fluid, and ink

Avoid multipart forms with carbon pages, transparencies, magazine pages, gum-backed pages, and light “onionskin” pages.

Before placing an item in the ADF, prepare the item by doing the following:

- Remove curls or wrinkles.
- Remove staples, paper clips, paper sticky notes, and any other materials from items.

If your item does not meet these guidelines or you cannot prepare it as stated, use the scanner glass.

Items for the XPA

The HP ScanJet transparency adapter (XPA) is included with some scanner models or can be ordered. Use the XPA and its templates to scan:

- photographic negatives
- 35 mm slides
- other transparent media up to 127 to 127 mm (5 by 5 inches) in size. For transparent items larger than these measurements, scan without using the XPA. Just cover the item with a piece of white paper and scan as you normally would.

Because these items are easily damaged, handle them only by their edges.

Completing your first scan

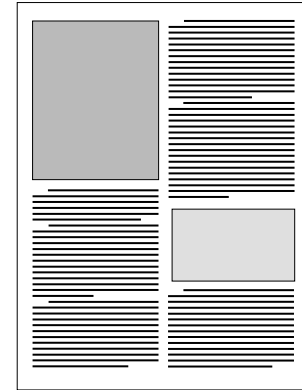
Doing your first scan is easy. This section shows you how to take the same item and scan to print using the two primary scanning methods:

- the scanner buttons
- HP PrecisionScan Pro software

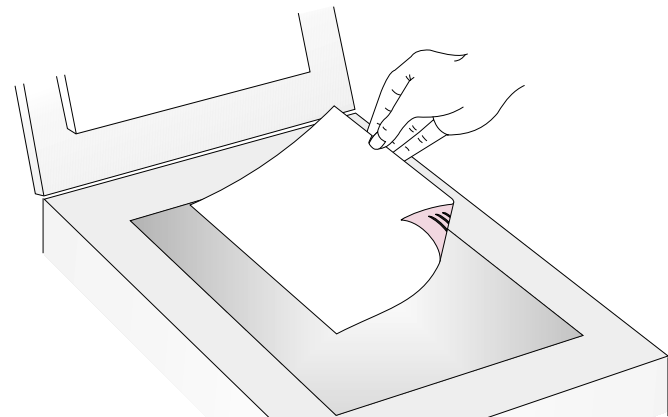
Before scanning, you will load the item in the scanner.

To load the item in the scanner

- 1 Choose an item to scan, such as a page from a magazine.



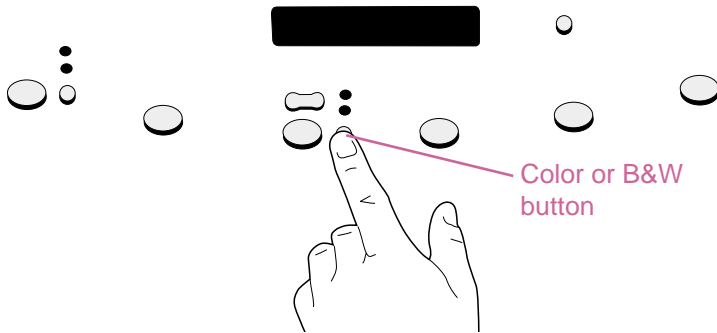
- 2 Place the item face down on the scanner glass and close the lid.



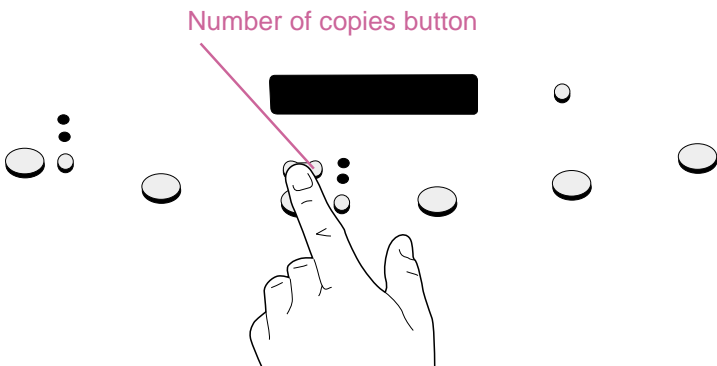
- 3 See ["To complete your first scan using the scanner buttons" on page 10.](#)

To complete your first scan using the scanner buttons

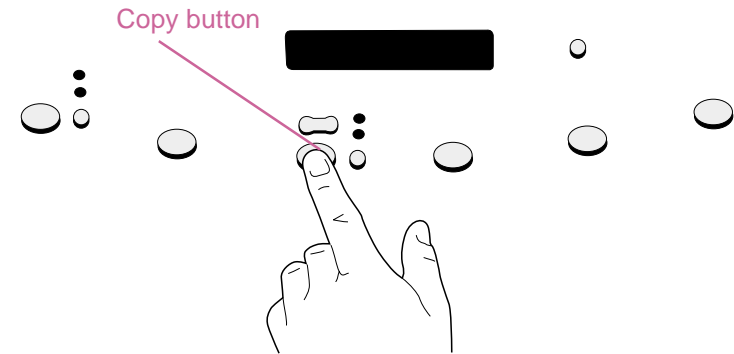
- 1 Load the item in the scanner. See ["To load the item in the scanner" on page 9](#).
- 2 Select **COLOR COPY** or **B&W COPY** by pressing the button until the light next to your choice is lit. Only select **COLOR COPY** if you are printing to a color printer.



- 3 To make more than one copy, press **NUMBER OF COPIES** until the number you want appears on the display.



- 4 On the scanner, press **COPY**. The scanner scans the item using settings optimized for printing this type of item and then prints the item to the default printer.



If you have not already scanned using the HP PrecisionScan Pro software, see ["To complete your first scan using the HP PrecisionScan Pro software" on page 11](#).

To complete your first scan using the HP PrecisionScan Pro software

- 1 Load the item in the scanner. See ["To load the item in the scanner" on page 9](#).
- 2 With the item loaded, press **HP SCANNING SOFTWARE** on the scanner. The scanner scans the item to the HP PrecisionScan Pro software, choosing the best settings for this type of item.
- 3 When the scanned image appears in the preview window of the software, draw a selection border around the image or portion of the image you want. To do so, click on one corner of the area you want, and while holding down the mouse button, drag the cursor to the opposite corner. Release the mouse button to complete the border.

Selection
border



- 4 Experiment with the image. Change the output type or make other adjustments.
- 5 When you finish: On the **Scan** menu, click **Print**.
- 6 Select any printer options you want and click **OK**. The scanner performs a final scan including your changes, and the scanned image prints.

If you have not already scanned using the scanner buttons, see ["To complete your first scan using the scanner buttons" on page 10](#).

Frequently asked questions

This section contains answers to some questions users frequently ask about scanning.

What settings does the HP PrecisionScan Pro software set automatically for an item I scan?

Based on the scanned item, the software automatically chooses optimal values for these settings:

- output type
- resolution
- sharpening
- exposure (midtones, highlights, and shadows)
- color (hue and saturation or black-and-white threshold)

Usually, the values the software selects provides optimal results. However, you can change these values in the HP PrecisionScan Pro software.

How can I reduce the time it takes to scan?

You can reduce the time it takes to scan an item by scanning in black and white when the original:

- Is a black-and-white photograph or drawing.
- Is a color photo or drawing, but you want a black-and-white image to appear on the computer screen.
- Contains only text.

Scan color originals as black and white by changing the color option for the scanner button (such as **E-MAIL**) you will be using. See ["Changing settings for buttons" on page 25](#). Or, in the HP PrecisionScan Pro software, clear the **Automatic Set Type** option and choose **Grayscale** or a black-and-white output type before you scan. See ["Selecting output type" on page 33](#).

How can I reduce the file size?

To reduce file size:

- Save files using a compressed format, such as compressed TIFF or JPEG.
- Avoid using the True Color output type unless necessary. This output type offers exceptional quality for color photos or drawings, but it also creates large file sizes.
- Set the resolution no higher than necessary. Generally, the resolution the software automatically sets provides the best balance between image quality and small file size.
- For photos, significantly reduce file size by cropping the photo to select just one area as the final scanned image. Or, resize the entire photo to smaller dimensions.

Should I change the resolution?

The HP PrecisionScan Pro software sets the resolution for you. In almost all cases, you get the best results and the smallest file size if you use the resolution the software has determined to be best for the type of original you have.

What is the difference between screen and print quality?

A computer screen usually displays images at 72 to 75 pixels per inch (PPI). Print resolution is usually higher. Screens also use fewer colors to display an image. Even if an image looks incorrect on the screen, it might print the way you want.

What is the difference between zooming and resizing?

Use **Zoom In** to view an area of the scanned image close up. Use **Zoom Out** to return to the original view of the image.

The zoom commands do not change the final size of your scan; they just give you a different view on a monitor. To reduce or enlarge the size of the final scan, use the **Resize** command on the **Tools** menu.

What do I need to know about scanning text?

When you scan an item containing text, you can use the text either as a scanned image, such as a fax or photo archive, or as text you can edit. Do one of the following to have the optical character recognition (OCR) software make the text editable automatically and send the text to a supported word-processing program:

- Use the **EDIT TEXT** scanner button. Editable text appears in the word-processing program associated with the button.
- In the HP PrecisionScan Pro software, choose **Scan To** from the **Scan** menu, choose **Text File** from the **Destination** pull-down menu, and click **Scan**.

2 Scanning from scanner buttons

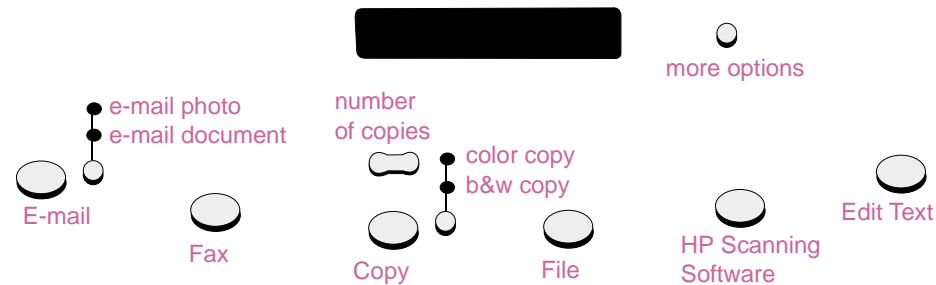
The scanner buttons provide an easy way to scan items directly to destinations or files using settings optimized for the destination you choose.

When you use a scanner button except **HP SCANNING SOFTWARE**, you do not view or change scanned images before they go to the destination or file. To view or change images, use the **HP SCANNING SOFTWARE** button, which sends the scanned image to the HP PrecisionScan Pro software. See the next chapter, "[Scanning from HP PrecisionScan Pro](#)."

Tip

You can change the default settings for buttons on the scanner. See "[Changing settings for buttons](#)" on page 25.

Overview of scanner buttons



E-mail

Scan using settings optimized for e-mail. The scanned image is attached to a new e-mail message.

e-mail photo/e-mail document

Choose the original type before pressing **E-MAIL** to ensure the best settings are used. Choose **E-MAIL DOCUMENT** if the original contains text only or both text and graphics. The light next to the currently selected choice is lit.

Fax

Scan using settings optimized for faxing. The scanned image is a new fax message.

Copy

Print copies using settings optimized for printing. At the computer, you can click **Cancel** to choose additional copy settings in the HP ScanJet Copy Utility before the pages print.

number of copies

Choose the number of copies before pressing **COPY**.

color copy/b&w copy

Choose one before pressing **COPY** to ensure the best settings are used. Only use color copy if you are printing to a color printer and want a color copy. The light next to the currently selected choice is lit.

File

Scan using settings optimized for archiving scanned images as files. Scanned images are saved in PDF format.

HP Scanning Software

Scan to the HP PrecisionScan Pro software to view the image or to make adjustments, such as changing resolution or resizing.

Edit Text

Scan and then convert text into an editable form and place it in a word-processing program.

more options

Open the dialog box for changing settings, such as output quality, for buttons on the scanner.

Scanning quickly without making changes

Use the scanner buttons to scan quickly to a destination using settings optimized for that destination. A destination is a printer, file, or another program, such as your e-mail, fax, and word-processing programs.

If you are scanning slides or transparent items using the XPA, you must scan from the HP PrecisionScan Pro software. See ["Scanning from HP PrecisionScan Pro" on page 29](#).

E-mailing a scan

When you e-mail using the scanner button, the scanner scans the item using default settings optimized for mailing. If you have a supported e-mail program, the scanned image automatically appears as a file attachment in a new e-mail message, which you then address and send.

Tip

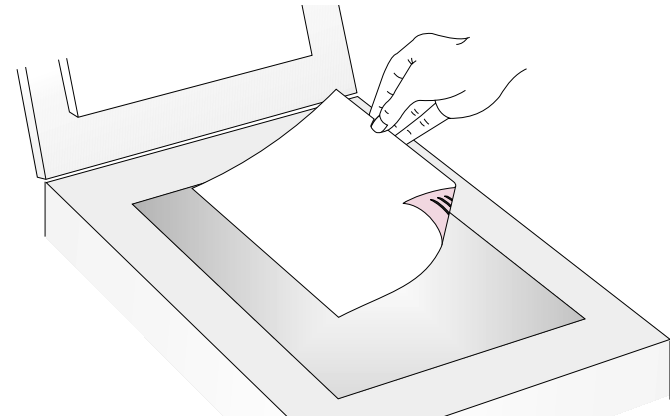
If your e-mail program is not supported, choose E-mail anyway. The scanner scans the item using the optimal settings, and the computer prompts you to save the item as a file. Open your e-mail program and attach the file to a message as you normally do.

Tip

To view the scanned item before you send it, open the file attachment from the new e-mail message.

To e-mail a scan from the scanner

- 1 Place the original face down on the scanner glass and close the lid.



Note: To load items in the ADF, see [page 66](#).

- 2 Select **E-MAIL PHOTO** or **E-MAIL DOCUMENT** by pressing the small button beneath the lights until the light next to your choice is lit. If the item contains both text and graphics, select **E-MAIL DOCUMENT**.
- 3 Press **E-MAIL** on the scanner.
- 4 If the scanner or the computer prompts you for another page, do one of the following:
 - If you do not have more pages to scan, click **Done**.
 - If there are additional pages of this item, load the next page and click **Scan**. Repeat until all pages are scanned. Then, click **Done**.
- 5 If you have a supported e-mail program, the scanned image automatically appears as a file attachment in a new message. Address the message and send it as you normally do. If the scanned image does not attach to a new message, see ["Supported e-mail programs" on page 18](#).

Supported e-mail programs

Supported e-mail programs allow the scanner to scan an item as a file and attach it to a new e-mail message. If a scanned image automatically appears as a file attachment in a new e-mail message, your e-mail program is supported.

If you are using an unsupported e-mail program, such as a Web-based program like Microsoft Hotmail®, the scanner cannot scan items directly into an e-mail message. The scanner scans the item but then prompts you to save it as a file. After saving the image as a file, open an e-mail message and attach the file as you normally do.

To be prompted to save the file, make sure that **E-mail file** is selected in the button options. Otherwise, you receive an error message when you press **E-MAIL** at the scanner.

See "[Changing settings for buttons](#)" on page 25 to check or change which e-mail program is set as the default, or to set **E-mail file** as the default.

Faxing a scan

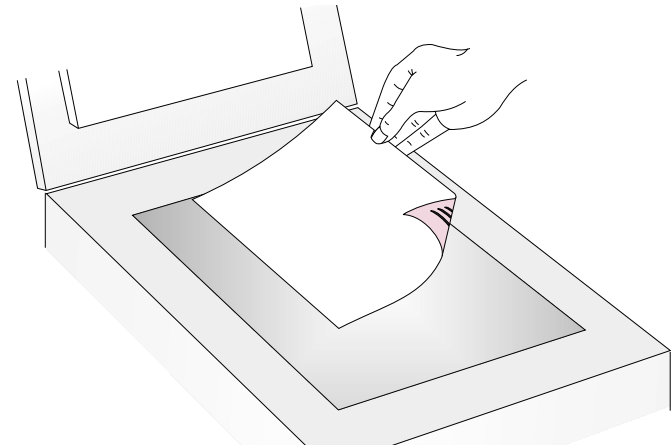
When you fax using the scanner buttons, the scanner scans the item using default settings optimized for faxing. If you have a supported fax application program, the scanned image then automatically appears in a new fax message, which you then address and send. You do not make changes to the scanned image.

Tip

If your fax program is not supported, select Fax anyway. The computer scans the item using the optimal settings, and the computer prompts you to save the scanned image as a file. Open your fax program and attach the file to a message as you normally do.

To fax a scan from the scanner

- 1 Place the original face down on the scanner glass and close the lid.



Note: To load items in the ADF, see [page 66](#).

- 2 Press **FAX** on the scanner.
- 3 If the scanner or the computer prompts you for another page, do one of the following:
 - If you do not have more pages to scan, click **Done**.
 - If there are additional pages of this item, load the next page and click **Scan**. Repeat until all pages are scanned. Then, click **Done**.
- 4 If you have a supported fax program, the scanned image automatically appears in a new fax message. Address the message and send it as you normally do. If the scanned image does not attach to a new message, see [“Supported fax programs”](#) on this page.

Supported fax programs

Supported fax programs allow the scanner to scan items directly into new fax messages. If a scanned image automatically appears in a new fax message, your fax program is supported.

If you are using an unsupported fax program, the scanner cannot scan items directly into a fax message. The scanner scans the item but then prompts you to save the scanned image as a file. After saving the image as a file, open a fax message and attach the file as you normally do.

To be prompted to save the file, make sure that **Image file** is selected in the button options. Otherwise, you receive an error message when you press **FAX** at the scanner.

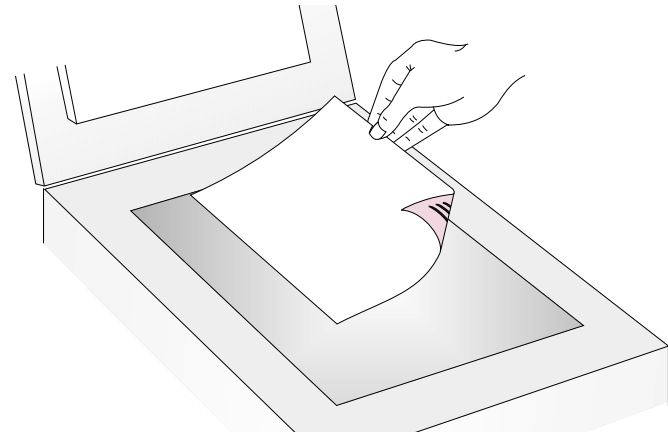
See "[Changing settings for buttons](#)" on [page 25](#) to check or change which fax program is set as the default, or to set **Image file** as the default.

Printing copies

You can scan an item and send it to a printer to make copies using the scanner button. At the computer, you can see the progress of the scan or you can cancel the scan. (If you cancel the scan, the printer might feed a blank page to the output bin.) Note that when you make copies, each page is treated as a separate print job, so the printer does not collate copies.

To print copies from the scanner

- 1 Place the original face down on the scanner glass and close the lid.



Note: To load items in the ADF, see [page 66](#).

- 2 Select **COLOR COPY** or **B&W COPY** by pressing the button until the light next to your choice is lit. Only select **COLOR COPY** if you are printing to a color printer and want a color copy.
- 3 Select the **NUMBER OF COPIES** by pressing the button until the number you want appears.
- 4 Press **COPY** on the scanner.
- 5 To reduce or enlarge the copies, lighten or darken them, or change which printer prints them, press **⌘ + .** (**COMMAND KEY+PERIOD**) on the computer to set options in the HP ScanJet Copy Utility. Change options and click **Copy**. If you do not click the **COMMAND KEY+PERIOD**, the number of copies specified on the scanner print directly to the default printer.

Note: If you cancel the scan, the printer might feed a blank page to the output bin.

Saving a scan to a file

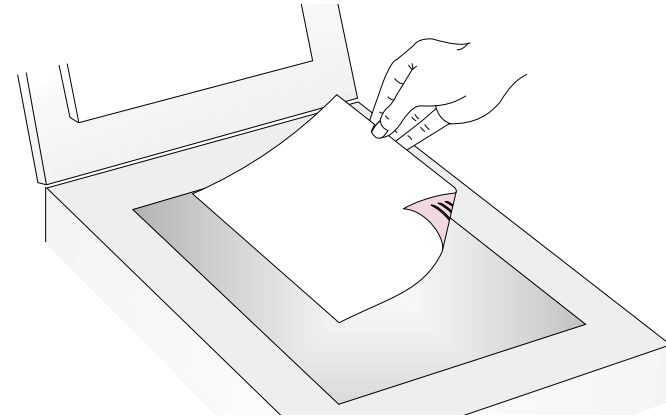
You can scan and save items directly to files for archiving purposes without making changes to them. The files are saved in PDF format, which keeps the original page formatting.

Tip

To save a scanned image in a different file format, scan to the HP PrecisionScan Pro software, and on the **Scan** menu, click **Save As**.

To save a scan to a file from the scanner

- 1 Place the original face down on the scanner glass and close the lid.



Note: To load items in the ADF, see [page 66](#).

- 2 Press **FILE** on the scanner.
- 3 In the **Save As** dialog box, name the file, choose a location in which to save it, and click **Save**.
- 4 If the scanner or the computer prompts you for another page, do one of the following:
 - If you do not have more pages to scan, click **Done**.
 - If there are additional pages of this item, load the next page and click **Scan**. Repeat until all pages are scanned. Then, click **Done**.

Making scanned text editable

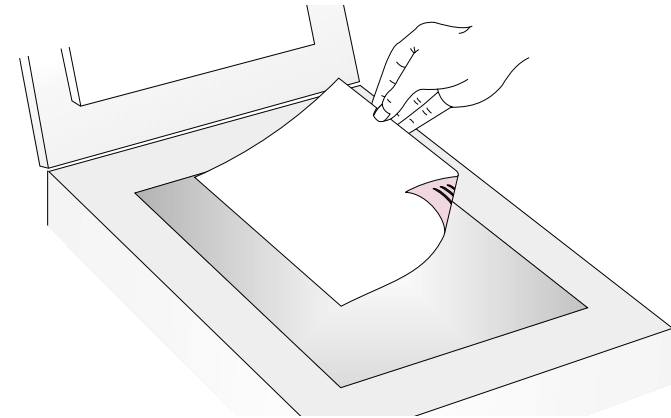
You can make text on a scanned image editable. The optical character recognition (OCR) program converts the text to be editable and then places it in a supported word-processing program. Depending on the capabilities of the word-processing program, graphics on a scanned image might be retained or discarded, or the OCR program might try to convert them and they will appear as random characters.

Tip

If a block of text appears in Microsoft Word or another word-processing program inside a frame you do not want, double-click the frame border and click **Remove Frame** or a similar command.

To make text editable from the scanner

- 1 Place the original face down on the scanner glass and close the lid.



Note: To load items in the ADF, see [page 66](#).

- 2 Press **EDIT TEXT** on the scanner.
- 3 If the scanner or the computer prompts you for another page, do one of the following:
 - If you do not have more pages to scan, click **Done**.
 - If there are additional pages of this item, load the next page and click **Scan**. Repeat until all pages are scanned. Then, click **Done**.
- 4 When the text opens in the word-processing program, check it carefully for accuracy.

What to expect from OCR programs

Optical character recognition programs convert some text more accurately than other text. Because OCR technology is never perfect, proofread all converted text carefully to ensure the characters have been correctly interpreted.

These types of text convert most accurately:

- text in standard fonts
- text in 9-point font or larger
- crisp, clear text
- black text on a white background

These types of text might convert less accurately:

- text close to non-text elements, such as bullets, lines, or graphics
- text in spreadsheets, tables, or forms
- letters that have gaps, that “bleed” along their edges, or that touch other letters
- underlined text
- text on colored paper

Handwriting cannot be converted.

Supported word-processing programs

By default, text converted using the OCR program appears in Microsoft Word or SimpleText. By changing the settings for the **EDIT TEXT** button, you can have text appear in a different, supported program instead. See ["Changing settings for buttons" on page 25](#). The **Edit Text** tab on the **Buttons** tab of the **HP ScanJet Controls** dialog box will display the supported programs installed on the computer.


Changing settings for buttons

When you use the scanner buttons, the scanner scans the item using settings optimized for the destination, such as e-mail, that is associated with that button. Settings are applied to all items being scanned until you change the settings again.

Tip

To change the settings only for the current item, you may want to scan using the HP PrecisionScan Pro software instead. See [Scanning from HP PrecisionScan Pro](#) (starting on page 29).

To change settings for buttons

- 1 Do one of the following:
 - On the scanner, press **MORE OPTIONS** (if present).
 - Choose **Control Panels** from the **Apple** () menu, and then choose **HP ScanJet Controls** from the submenu.
- 2 On the **Buttons** tab, click the tab for the button you want. The boxes in the middle of the tab contain the settings that can be changed.
- 3 Change the setting for the button. See "[List of options for scanner buttons](#)" on page 25 for more information.
- 4 Repeat step 3 to change any other settings for this button.
- 5 Repeat steps 2 through 4 to change settings for another button.
- 6 When finished, click the close box.

List of options for scanner buttons

With the HP ScanJet Controls control panel, you can select scanning options that are applied to items you scan using the following scanner buttons:

- **E-MAIL** (with the **E-MAIL PHOTO** button)
- **E-MAIL** (with the **E-MAIL DOCUMENT** button)
- **FAX**
- **COPY**
- **FILE**
- **HP SCANNING SOFTWARE**
- **EDIT TEXT**

The following scanning options are available on the **Buttons** tab.

- **Destinations** options. See "[Destinations options](#)" on page 26.
- **Image Output** options. See "[Image options](#)" on page 26.
- **ADF Page Size** options. See "[ADF Page Size options](#)" on page 27.

Destinations options

Destinations

The **Destinations** pull-down menu lists the available destinations on your computer.

Note: If a destination does not support an option on the **Buttons** tab, the option is dimmed.

Type of file

When **Image** is selected, the scanned image is saved as an image file. If the scanned image contains text, this text is not editable.

When **Text** is selected, output is converted to one column in what the software perceives to be the most logical order. Graphics or pictures from the scanned item are discarded. Use this option to make more extensive changes to text.

When **Image and Text** is selected, output is converted to a format that creates editable text. Any graphics or pictures in the scanned item are preserved.

Prompt for Another Page

When this option is selected, a prompt appears on the computer after you scan the first page of a job. The prompt asks if you have more pages to scan to this job.

When this option is not selected, you will not be prompted for more pages. Each scanning job will be treated as a single-page job.

Image options

Resolution

Select a resolution from the pull-down menu, or type a resolution in the text box.

Output Type

From the **Type** pull-down menu, select one of the options below:

- **True Color** creates an image that is rendered with 24-bits per pixel per color.
- **256 Color Palette** creates an image that contains the 240 most common colors in the image, plus the 16 basic colors.
- **Grayscale** creates an image containing shades of gray, not just black and white. In a grayscale image, each pixel contains multiple bits of information, allowing more shades of gray to be recorded and displayed.
- **Black & White** creates an image that contains only black pixels and white pixels, no colors or shades of gray. Each pixel represents one bit.

For more information about using these options, see ["List of file types" on page 52](#).

Automatic Cropping

When this option is selected, the scanner includes only the item or items on the scanner glass in the resulting scanned image.

When this option is not selected, the scanner includes the entire area of the scanner glass, including blank areas, in the resulting scanned image.

ADF Page Size options

If you are using an ADF with the scanner, select the size of the pages you load in the ADF:

- Letter
- Legal
- A4

For more information about loading items in the ADF, see "[Scanning from the ADF](#)" on page 66.

3 Scanning from HP PrecisionScan Pro

Using the HP PrecisionScan Pro software, you can preview scanned images and make changes to the images before you send them to a destination or file them. You start the HP PrecisionScan Pro software from a scanner button or the HP Scanning Software folder on your computer.

You can also start the HP PrecisionScan Pro software from another program, such as a word-processing or image-editing program, if the program is compliant with TWAIN or supports the HP ScanJet Plug-in. See "[Scanning from other programs](#)" on [page 64](#) for more information.

Overview of the HP PrecisionScan Pro software

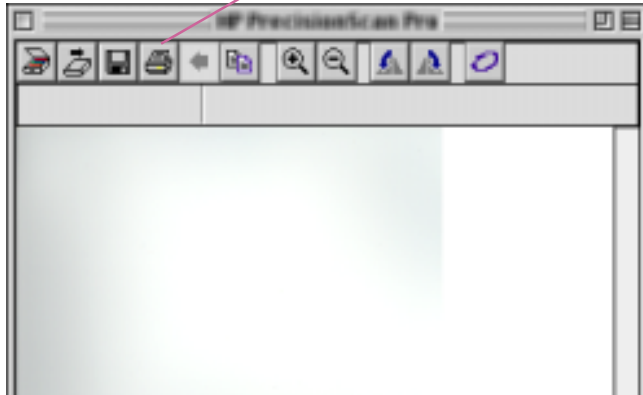
The HP PrecisionScan Pro software provides preview capabilities and tools for changing an image. Some of the changes you can make include:

- select only part of, or crop, the preview image to become the final scanned image
- change the resolution
- resize the scanned image
- change the contrast

To start the software without initiating a scan

In the **HP Scanning Software** folder, double-click **HP PrecisionScan Pro**. The software starts.

Hover over a command
in this toolbar to see an
explanation



For more information about the types of assistance the software itself offers, see "[Finding help for using the software](#)" on this page. For more information about keyboard shortcuts, menu items, toolbars, and cursor appearance, see "[Using software commands and controls](#)" on [page 101](#).

Finding help for using the software

The HP PrecisionScan Pro software provides several means of assisting you.

Smart Friends

Smart Friends are tips that appear automatically to notify you of potential problems. For example, if you are setting a very high resolution but want to e-mail the scanned image, a Smart Friend would alert you that the file will probably be too large to e-mail. To turn individual messages off, select the **Don't remind me again** check box in the message's dialog box. To turn all messages off, click **Disable All Smart Friends** on the **Help** menu. To turn all messages back on, click **Enable All Smart Friends**.

Online Help

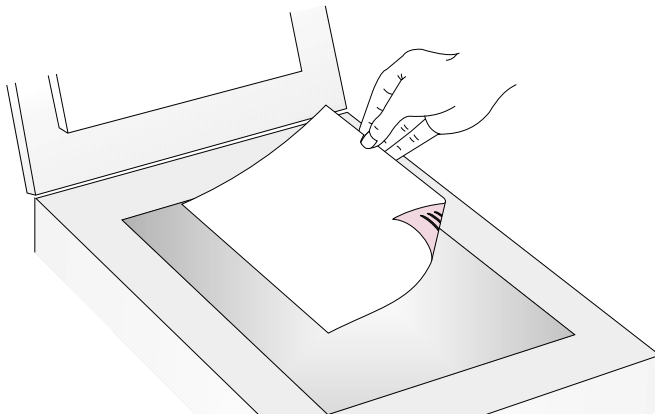
The online Help is an easy-to-use source of information about using the scanner and software, troubleshooting, support, and specifications. To gain access to the Help: on the **Help** menu, click **HP PrecisionScan Pro Help**. Or, click the **Help** button in any dialog box in which it appears.

Performing a new scan

Once you start a new scan, the scanner does a preliminary scan of the item and displays the scanned image in the HP PrecisionScan Pro software. Then, you can see the scanned image and edit it, if necessary, before sending it to a destination or saving it as a file.


To start (preview) a new scan

- 1 Place the original face down on the scanner glass and close the lid.



Note: To load items in the ADF, see [page 66](#).

- 2 Start the scan in one of these ways:

- On the scanner, press **HP SCANNING SOFTWARE**.
- In the HP PrecisionScan Pro software, click  on the toolbar.
- In the HP PrecisionScan Pro software, click **New Scan** on the **Scan** menu.

The scanned image appears in the HP PrecisionScan Pro software. This scanned image is the preview image. You can make changes, such as selecting only part of the image or adjusting the contrast.

When you send the image to another program such as e-mail, place the image on a website, or save it as a file, the scanner performs a final scan of the item that includes any changes you made. Directions for making optional adjustments and completing the scan appear in this section.

Cropping or selecting an area for final scan

Once a scanned image appears in the HP PrecisionScan Pro software, you must select which area becomes the final scanned image by creating a selection area. When you create a selection area, a dotted selection border appears around the area:




For information about the appearance of the cursor when it is over an area of the selection border, see ["Context-sensitive cursors" on page 107](#).

Tip

If you only want to look more closely at an area without changing what will be included in the final scan, see ["Getting a closer look \(zooming\)" on page 33](#).

To crop or select an area for final scan


Do one of the following:

- Move the cursor over the area you want and click.
- When the cursor looks like this: , click on one corner of the area you want and drag the cursor to the opposite corner to draw a rectangular selection area.
- On the **Edit** menu, click **Select All**. The entire scanner bed, including blank areas, is selected.

To resize the selection area

Click the edge of the selection border and drag to resize.

To move the selection border

Move the cursor over the selection area. When the cursor looks like this: , click and drag the selection border to the new location.

To remove the selection border

Do one of the following:

- Press **Esc**.
- On the **Edit** menu, click **Unselect All**.
- Draw a selection border around a different area of the image.


Getting a closer look (zooming)

Zoom in on the selection area to look at it more closely or make changes to it. Zoom out to view the entire preview image, or so you can select a different area of the image to view. Zooming in on the selection area before making changes or performing a final scan provides the best final results. The zoom commands are not available if you have not created a selection area.

Zooming in and out *does not* change which part of the image becomes the final scan, nor does it change the final output size (physical output dimensions). To change which part of the image becomes the final scanned image, see ["Cropping or selecting an area for final scan" on page 32](#). To resize the image, see ["Resizing \(output dimensions\)" on page 35](#).

To zoom in

After creating a selection area, do one of the following:

- On the **View** menu, click **Zoom in**.
- Click .

To zoom out

Do one of the following:

- On the **View** menu, click **Zoom out** to return to the original view of the image.
- Click .

Selecting output type

When **Automatically Set Type** is selected, the scanning software automatically chooses an output type based on the type of item you are scanning. However, you can change the output type yourself when you want. Choose the output type based on how you will use the final scanned image as well as the type of item you are scanning.

To select an output type

1 Do one of the following:

- If it is not already selected, click **Automatically Set Type** on the **Output Type** menu, to allow the software to choose the best output type for this type of original item.
- To change the output type only for this scan, keep **Automatically Set Type** selected and select an output type you want from the **Output Type** menu. See ["List of output types" on page 34](#).
- To change the output type for this scan and all other scans in this session, clear **Automatically Set Type** and select an output type you want from the **Output Type** menu. See ["List of output types" on page 34](#).

Tip

When you redraw the selection border, the output type might change if **Automatically Set Type** is selected in the **HP PrecisionScan Pro Preferences** dialog box.

List of output types

For these uses	Use this output type
Color photos or drawings with lots of shading to be: <ul style="list-style-type: none"> • printed on a color printer • displayed on a color monitor set to millions of colors • displayed on Web and saved in the JPEG or PNG file format 	True Color
Color photos or drawings with shading to be: <ul style="list-style-type: none"> • printed to a color printer • sent via e-mail • used in any way that requires a small file size • viewed on a computer screen 	Optimized Palette
Color photos or drawings with shading to be: <ul style="list-style-type: none"> • printed to a color printer • displayed on a monitor set to 256 colors • displayed on Web and saved as a GIF file 	System Palette
Color photos or drawings with shading to be printed to a B&W printer.	Grayscale
B&W photos and drawings with shading to be used for any purpose.	Grayscale
B&W drawings without shading to be placed in another program without resizing in the other program.	Black & White Bitmap
Any image to be saved in GIF file format and displayed on the Web.	Web Palette
Color drawings or logos without much shading and with a concentrated area of a single color. The image is to be used for any purpose.	Spot Color

To reset output type

On the **Output Type** menu, click **Automatically Set Type**. The software chooses the best output type based on the image inside the selection area.

Making optional adjustments, basic

These tools are needed most often, but using any of them is still optional. Depending on the output type chosen, some tools will not be available.

Resizing (output dimensions)

You can resize the image before you do the final scan by changing the output dimensions. Resizing the scanned image to the actual dimensions you need before performing the final scan helps ensure the best image quality.


Tip

If you need to resize images to fit in a file, such as word-processing document, resize them here in the scanning software. Resizing images in the other program may cause them to be fuzzy or have jagged edges.

To resize an image

- 1 On the **Tools** menu, click **Resize**. The Resize dialog box opens.
- 2 Do one of the following:
 - If necessary, select a unit of measure in the **Units** field. In the Output Dimensions area, type a new value in the **Width** or **Height** field and press **ENTER**.
 - In the **Scale** field, select a scale percentage.

New values appear in the **Scale**, **Width**, and **Height** fields, but the selection area and the scanned image on screen remain the same. Resizing occurs when you complete the scan.

- 3 If you want, click . This locks the output dimensions you defined so you can change the selection area without changing the output dimensions. When you change the selection border, the software resizes the border proportionally. The output dimensions remain the same.

Changing resolution

Resolution determines the amount of data in a scanned image. The scanning software chooses the optimal resolution based on the output type. This resolution generally does not need to change.

If you do change the resolution, choose one no higher than the capabilities of the monitor or printer and one appropriate for the type of scanned image. For example, to print on a 600 dpi printer, choose 600 for black-and-white bitmap images, but choose only 200 for color or grayscale images. These resolutions produce optimal quality while keeping file sizes small.

Selecting higher resolutions for color images increases file size while not increasing quality. If you double the resolution, the file size quadruples. Large file sizes can prevent you from doing certain tasks, such as e-mailing, or can take up too much space on your computer.

For help choosing a resolution based on the type of original item and destination, see ["Tips for best image quality" on page 59](#).

To change resolution

- 1 On the **Tools** menu, click **Change Resolution**.
- 2 Do one of the following:
 - Select a value from the list.
 - Type a value between 12 and 999,999 in the field and press **ENTER**.

The resolution changes as soon as you select a value.

To reset resolution

On the **Tools** menu, click **Change Resolution**. Then, click .

Changing contrast



The contrast is controlled by the midtone, highlight, and shadow settings. See ["Changing midtones" on page 40](#), ["Changing highlights" on page 41](#), and ["Changing shadow" on page 42](#).

Rotating an image

You can rotate the image in 90-degree increments clockwise or counterclockwise. You might need to rotate the image if you placed the bottom of the item at the top of the scanner glass, or if the item was sideways. Items such as negatives in their template often scan sideways.

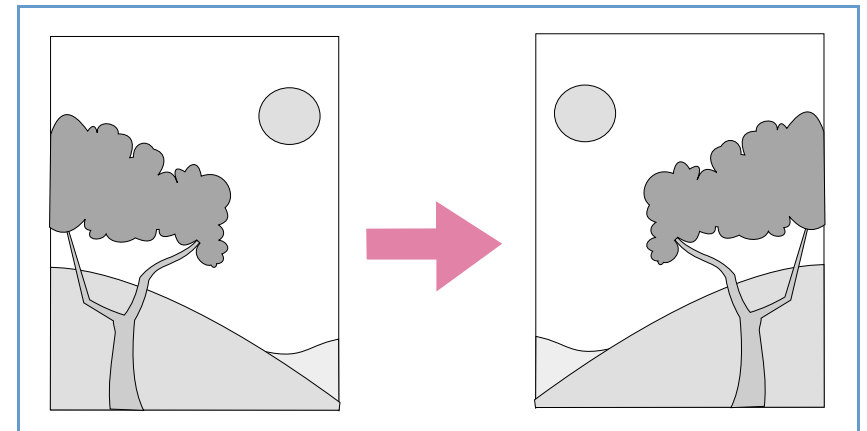
To rotate an image

Do one of the following:

- *To rotate an image clockwise:* On the **Tools** menu, click **Rotate right 90°**. Or, click  on the toolbar. Repeat to continue turning.
- *To rotate an image counterclockwise:* On the **Tools** menu, click **Rotate left 90°**. Or, click  on the toolbar. Repeat to continue turning.

Mirroring (reversing) an image

You can mirror, or reverse, an image from side to side on the vertical axis. Mirroring an image allows you to see the elements of the image on the opposite side of their actual position. Mirroring can be particularly useful for items such as negatives that might be placed in their template backward and scanned in reverse.



To mirror (reverse) an image

On the **Tools** menu, click **Mirror**. Repeat to return to the original layout.

Sharpening an image


Increasing sharpening enhances detail in the image. The HP PrecisionScan Pro software automatically selects the optimal sharpen level, but you can change it.

You might want to increase sharpening if the image looks fuzzy. Conversely, you might want to decrease sharpening if the original item has flaws or marks on it. Increasing sharpening, or increasing it too much, can accent the flaws and create undesirable patterns.

To sharpen an image

- 1 On the **Tools** menu, click **Sharpen**.
- 2 Select a sharpen level from the list. The viewer shows the effect of the changes on the image.

To reset sharpen levels

- 1 On the **Tools** menu, click **Sharpen**.
- 2 Click .

Resetting all adjustments

You can reset images to the optimal (default) values the scanning software chose for the image. Optimal values are based on the output type selected. Resetting removes all adjustments you have made except the output type, zoom level, or the selection area.

To reset all adjustments

Do one of the following:

- On the **Edit** menu, click **Undo Editing Changes**.
- On the toolbar, click .

Making optional adjustments, advanced

These optional adjustments are ones that most people generally do not use or need, but some advanced users might want them for special effects or other needs. Depending on the output type chosen, some tools are not available.

Inverting the image

Use the Invert command to convert white areas of an image to black and black to white. For color images, a color is converted to its complementary color. Generally, this command is useful for drawings and spot color images.

To invert the image

On the **Advanced** menu, click **Invert Colors**. Repeat to reverse the colors again.

Changing midtones

The midtone setting lets you lighten or darken the middle values in an image. The range for the number in the **Midtone** field is 1.0 to 4.0. Moving toward 1.0 darkens the image. Moving toward 4.0 lightens the image.

To adjust midtones for slides, negatives, or other transparent items, use ["Adjusting midtones for transparent items" on page 73](#).

Midtone set at 1.8
(the default)



Midtone set at 3.0



Tip

If you are sharing the image with others who will be viewing it on a computer screen, the Midtone value 2.2 is recommended because it is a value appropriate for many different monitors.

To lighten the image overall

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Midtone slider to the right.
 - Type a higher number in the **Midtone** field and press **ENTER**.
 - Click the **Up** arrow next to the **Midtone** field.

To darken the image overall

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Midtone slider to the left.
 - Type a lower number in the **Midtone** field and press **ENTER**.
 - Click the **Down** arrow next to the **Midtone** field.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click **Auto** to return the midtone, highlight, and shadow to the default settings for this scanned image. Clicking **Auto** also returns output levels to the defaults. See ["Setting pixel output levels" on page 44](#).

Changing highlights

The highlight is the value in the image that is represented on the screen as white. All values lighter than the highlight also appear as white.

The image has a default highlight setting. Selecting a higher number makes more of the lighter values distinct, which increases detail in light areas. Selecting a lower number makes fewer of the lighter values distinct, which reduces detail in the light areas.

To adjust highlights for slides, negatives, or other transparent items, use ["Adjusting highlights for transparent items" on page 73](#).

Highlights set at 215



Highlights set at 122




To increase detail in lighter areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Highlight slider toward the right.
 - Type a higher number in the **Highlights** field and press **ENTER**.

To reduce detail in lighter areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Highlight slider toward the left.
 - Type a lower number in the **Highlights** field and press **ENTER**.

To choose a value as the highlight value

Click  (white eyedropper). When the cursor changes to the eyedropper, move it over the area you want to be the highlight and click.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click **Auto** to return the midtone, highlight, and shadow to the default settings for this scanned image. Clicking **Auto** also returns output levels to the defaults. See ["Setting pixel output levels" on page 44](#).

Changing shadow

The shadow is the value in the image that is represented on the screen as black. All values darker than the shadow also appear as black.

The image has a default shadows value. Selecting a higher number makes more of the darker values distinct, which increases detail in dark areas. Selecting a lower number makes fewer of the darker values distinct, which reduces detail in the dark areas.

To adjust shadows for slides, negatives, or other transparent items, use ["Adjusting shadows for transparent items" on page 74](#).


Shadow set at 10



Shadow set at 3




To increase detail in darker areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Shadow slider toward the left.
 - Type a lower number in the **Shadow** field and press **ENTER**.
 - Click  (black eyedropper). When the cursor changes to the eyedropper, move it over the area you want to be the shadow and click.

To reduce detail in darker areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Shadow slider toward the right.
 - Type a higher number in the **Shadow** field and press **ENTER**.

To select a value as the shadow value

Click  (black eyedropper). When the cursor changes to the eyedropper, move it over the area you want to be the shadow and click.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click **Auto** to return the midtone, highlight, and shadow to the default settings for this scanned image. Clicking **Auto** also returns output levels to the defaults. See ["Setting pixel output levels" on page 44](#).

Checking for clipped areas

The lightest or darkest areas of an image that will print without any detail in them are known as clipped areas. The lightest areas, or highlights, will print as the color of the paper (without ink or toner) and therefore will have no detail. The darkest areas, or shadows, will print saturated in the blackest color of ink or toner, and therefore will also have no detail.

You can view and change clipped areas if you want those areas to contain detail when they print.



Normal view





View when
Highlight
Alarm
selected





View when
Shadow
Alarm
selected

To view and change clipped light (highlight) areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click  (Highlight Alarm). The light areas in the image that will print as white (no detail) appear black.
- 3 In the **Highlights** setting, click the **Up** arrow repeatedly until the clipped pixels disappear from the image. The result of the change can be seen.
- 4 Click  again to turn the Highlight Alarm off.

To view and change clipped dark (shadow) areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click  (Shadow Alarm). The darker areas in the image that will print as black (without detail) appear white.
- 3 In the **Shadow** setting, click the **Down** arrow repeatedly until the clipped pixels disappear from the image. The result of the change can be seen.
- 4 Click  again to turn the Shadow Alarm off.

Setting pixel output levels

The output levels setting lets you create interesting effects for scanned pictures. When you select this command, the Black and White output levels appear. By default, white is set to 255, and black is set to 0.

Decreasing the White output level makes the overall image darker. Increasing the Black output level makes the image more faded. Changing the White output level value to 0 and the Black output level value to 255 inverts the colors in the image.

To change the ranges for the numbers in the **White** and **Black** fields, see the **Controls** tab of ["Setting preferences" on page 60](#).

Tip

To use an image as a light background for dark text, such as for an overhead transparency, increase the Black output level until the image is as faint as you want.
To use an image as a dark background for light text, such as for color slides, decrease the White output level value until the image is as dark as you want.

To change output levels

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click the **Output Levels** check box. The dialog box expands to display the current White and Black output levels.
- 3 To change the levels, do one of the following:
 - Click on the one side of a slider.
 - Type a different number in the **White** or **Black** field and press **ENTER**.
 - Click the **Up** or **Down** arrow next to the **White** field or **Black** field.

The result of the changes to output levels can be seen in the preview area.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click **Auto** to return the midtone, highlight, shadow, and output levels to the default settings for this scanned image.

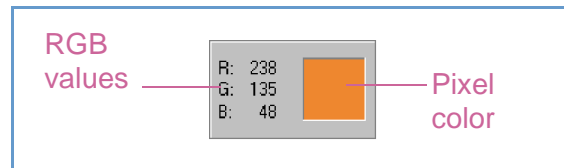
Viewing RGB values and pixels

You can view the RGB values and pixel color for any spot in a color or grayscale image using the RGB meter.

To view the RGB values and pixel color for slides, negatives, or other transparent items, use ["Viewing RGB values and pixel color" on page 74](#).

To view the RGB values and pixels

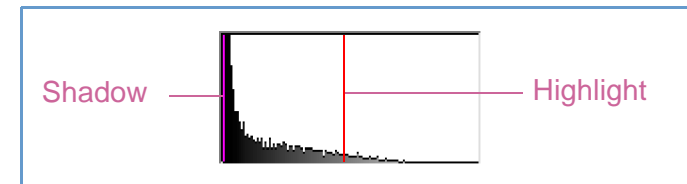
- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Move the pointer over the image. The RGB values and pixel color appear in the RGB meter.



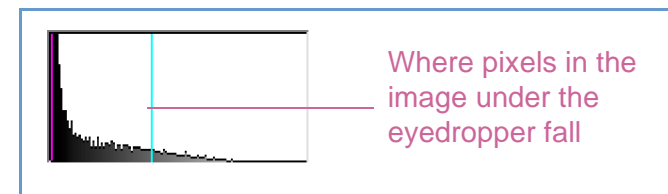
Note: Do not click while the eyedropper pointer is over the image unless you want to change the setting for highlight or shadow.

About the histogram

The histogram is a graph of the distribution of pixels in the selection area. The magenta line represents the current setting for shadow. The red line represents the current setting for highlight. The midtone setting is not represented.



The turquoise line appears in the histogram when either eyedropper cursor is positioned over the image. This line shows you where in the histogram the pixels in that area of the image occur.



The histogram represents pixel distribution in the preview image, not in the final scanned image. Changing the selection area changes the histogram. Changing the setting for highlight or shadow does not change the histogram.

Changing the hue

Color in an image consists of its hue and the saturation. Hue refers to the overall color cast of the image.

The software sets the hue for an image, but you can change it. You might want to change it if the image has too much of one color, or if you want to create a special effect.

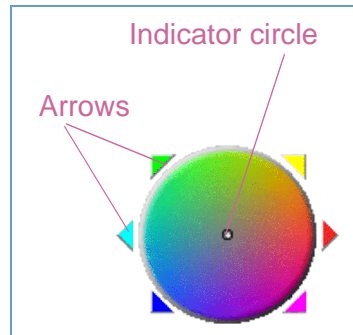
To change the hue

- 1 On the **Advanced** menu, click **Adjust Color**.

Change the overall color of the image by doing one of the following on the color wheel.

- Drag the indicator circle to a new area.
- Click the arrow for a color on the outer edge of the wheel.

The result of the change can be seen in the image.



Tip

If the image has too much of one color, move toward the color's opposite.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Color**.
- 2 Click **Auto** to return to the default hue and saturation settings for this scanned image.

Changing the saturation

Color in an image consists of its hue and the saturation. Saturation refers to the intensity of the colors.

The software sets the saturation for an image, but you can change it. You might want to change it to make colors in the image more or less vivid, or to create a special effect. The range in the **Saturation** field is 0 to 150.

To increase saturation

- 1 On the **Advanced** menu, click **Adjust Color**.
- 2 Make colors more vivid by doing one of the following:
 - Click to the right of the slider.
 - Type a higher number in the **Saturation** field and press **ENTER**.
 - Click the **Up** arrow next to the **Saturation** field.

To decrease saturation

- 1 On the **Advanced** menu, click **Adjust Color**.
- 2 Make colors less vivid by doing one of the following:
 - Click to the left of the slider.
 - Type a lower number in the **Saturation** field and press **ENTER**.
 - Click the **Down** arrow next to the **Saturation** field.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Color**.
- 2 Click **Auto** to return to the default hue and saturation settings for this scanned image.

Changing the black-and-white threshold

Changing black-and-white threshold only applies to images using the Black & White Bitmap output type. The threshold is a value in the image that represents the border between black and white. All values in the image that are lighter than the threshold appear as white, and all values darker appear as black.

The image has a default threshold value. Choosing a number closer to zero makes more values appear as white. Choosing a higher number makes more values appear as black.

Threshold at 127
(the default for this image)



Threshold at 45



To change black-and-white threshold

- 1 Make sure that **Black & White Bitmap** is selected on the **Output Type** menu. The selection should have a dot beside it.
- 2 On the **Advanced** menu, click **Adjust Black & White Threshold**.
- 3 Do one of the following:
 - Drag the slider.
 - Type a new value in the field and press **ENTER**.
 - Click the **Up** or **Down** arrow next to the field.
- 4 If necessary, sharpen the image. This can be especially useful if the original was a color or black-and-white photograph. See ["Sharpening an image" on page 38](#).

To reset black-and-white threshold

- 1 On the **Advanced** menu, click **Adjust Black & White Threshold**.
- 2 Click **Auto**.

Setting which colors become black or white in black & white bitmaps

This procedure only applies to color images that will be using the Black & White Bitmap output type. It allows you to create special effects, or to correct for originals on colored paper.

Images consist of pixels. In color images, each pixel has a varying amount of Red, Green, or Blue to create its specific color. You can determine whether the Red, Green, or Blue in each pixel turns to black or white in the final scanned image.

To set which colors become black or white in black & white bitmaps

- 1 Make sure that **Black & White Bitmap** is selected on the **Output Type** menu. The selection should have a dot beside it.
- 2 On the **Advanced** menu, click **Adjust Black & White Threshold**.
- 3 Select a color channel from the **Scan using channel** list.
 - Choose **Red** to change the red in the image to white. Green and blue become black. Useful for originals printed on pink or red paper.
 - Choose **Green** to change the green in the image to white. Red and blue become black. Useful for originals printed on green paper.
 - Choose **Blue** to change the blue in the image to white. Red and green become black. Useful for originals printed on blue paper.
 - Choose **NTSC Gray** to convert light shades of all colors to white and dark shades of all colors to black. (No one color becomes all white or all black.) Colors are converted to gray at a ratio of 30% red, 59% green, and 11% blue.

To reset to the default colors

- 1 Make sure that **Black & White Bitmap** is selected on the **Output Type** menu. The selection should have a checkmark beside it.
- 2 On the **Advanced** menu, click **Adjust Black & White Threshold**.
- 3 Choose **NTSC Gray** from the **Scan using channel** list.

Descreening images

Use the **Descreen** command to reduce undesirable patterns in printed items that you are scanning. An example of an undesirable pattern is a moiré pattern, or the circles that often appear on pictures printed in newspapers.

Note that scanning takes longer when this command is selected. If you are not scanning a printed original, turn Descreen off to reduce scanning time.

To descreen images

On the **Advanced** menu, click **Descreen**. Select the option again to turn it off.

Resetting all adjustments

You can reset images to the optimal (default) values the scanning software chose for the image. Optimal values are based on the output type selected. Resetting removes all adjustments you have made except the output type, zoom level, or the selection area.

To reset all adjustments

Do one of the following:

- On the **Edit** menu, click **Undo Editing Changes**.
- On the toolbar, click .

Completing the final scan

When you finish making changes, you need to complete the final scan by doing one of these tasks:

- [Sending to a program](#). See this page.
- [Returning the image to a program that supports TWAIN or the HP ScanJet Plug-in](#). See [page 51](#).
- [Saving to a file](#). See [page 52](#).
- [Printing](#). See [page 54](#).
- [Placing a scan on a website](#). See [page 55](#).
- [Copying and pasting into another program](#). See [page 57](#).
- [Dragging-and-dropping into another program](#). See [page 57](#).
- [Dragging-and-dropping to the desktop or a folder](#). See [page 58](#).

When you do any of these procedures, the scanner performs a final scan including your changes before sending it to the program or printer you choose, copying the image, etc.

Images are not automatically saved as files if you print them, send them to a another program, or copy and paste them into a file in another program. To use the scanned image again, be sure to save it. See ["Saving to a file" on page 52](#).

Sending to a program

Once you finish viewing and changing the scanned image, you can perform a final scan and send it directly to a program such as e-mail. If the program you want is not available, save the image as a file and insert it into the destination program as you normally would.

To create editable text, you can send the scan to a text file and select a text or text-and-image file format. See ["List of file types" on page 52](#).

Tip

If you send text to Word or another word-processing program and the text appears inside a frame you do not want, double-click the frame border and click **Remove Frame** or a similar command. To prevent this from happening in the future, see ["Setting preferences" on page 60](#).

To send to a program

- 1 On the **Scan** menu, click **Scan To**.
- 2 Choose a program from the list and click **Scan**.
- 3 If the program you select accepts multipage files, you might be asked if you have more pages to scan to this file. Do one of the following:
 - If this is a one-page item, click **Done**.
 - If there are more pages of this item, load the next page in the scanner and click **Scan** on the computer. Repeat until all pages are scanned. Then, click **Done**.

The destination program opens and displays the scanned image.

To create editable text

- 1 Choose **Scan To** from the **Scan** menu.
- 2 Choose **Text File** from the **Destination** pull-down menu, and then click **Scan**.
- 3 Select a text or text-and-image file format in the **Format** pull-down menu, and then click **Save**. See ["List of file types" on page 52](#).
- 4 If the program you select accepts multipage files, you might be asked if you have more pages to scan to this file. Do one of the following:
 - If this is a one-page item, click **Done**.
 - If there are more pages of this item, load the next page in the scanner and click **Scan** on the computer. Repeat until all pages are scanned. Then, click **Done**.

The OCR program opens and creates editable text from the scanned image.


Note: You can also save a scanned image and import the image into your OCR software. See ["To save a scan for future processing in OCR software" on page 52](#).

Returning the image to a program that supports TWAIN or the HP ScanJet Plug-in

If you started the scan from a program that supports TWAIN or the HP ScanJet Plug-in, you can perform a final scan and return the image to that program using this procedure. For more information about scanning using TWAIN or the HP ScanJet Plug-in, see ["Scanning from other programs" on page 64](#).

To return the image to a program


Do one of the following:

- On the **Scan** menu, click **Return Image To**.
- On the toolbar, click  .

Saving to a file

Save scanned images as files when you want to use the images again later. For help deciding on which file type to use, see ["List of file types" on page 52](#), or see ["Tips for best image quality" on page 59](#). For definitions of File types, see the ["Glossary" on page 109](#).

To save to a file

- 1 Do one of the following:
 - On the **Scan** menu, click **Save As**.
 - On the toolbar, click .
- 2 Select a file type. See ["List of file types" on page 52](#).
- 3 Select a name and location for the file and click **OK**.
- 4 If the **Options** button is available, more options are available for this file type. Click **Options**, change any options you want, and click **OK**.

The file type you need depends on how you will use the file. And, some file types are not available when certain output types are selected.

To save a scan for future processing in OCR software

If you plan to process a scanned document with your optical character recognition (OCR) software, use the following settings:

- **Resolution:** 300
- **Output type:** Black & White Bitmap
- **Format:** TIFF

Note: Selecting higher resolutions than 300 dpi will not increase OCR accuracy.

List of file types

Image file formats

- **GIF.** GIF is a compressed file format suitable for an image that will be used on the Web or on multiple platforms. Cannot be used with True Color output type.
- **JPEG.** JPEG is a compressed file format for images. Its strengths are small file sizes and speed. The trade-off for these advantages, though, is reduced image quality. Because each time an image is compressed with JPEG it loses a little of the image data, avoid compressing a file with JPEG more than once. JPEG is an appropriate file format for an image that will be used on the Web or on multiple platforms.
You can save your JPEG file as a progressive JPEG. When used on a Web page, a progressive JPEG is initially sent as just every other line, with the remaining lines sent immediately after. This allows a (somewhat blurry) image to display sooner. Most people prefer this. JPEG can be used only with True Color and Grayscale output types.
- **PNG.** A compressed image file format that might replace GIF. Like GIF, PNG uses non-lossy compression, which means all the visual data is saved and restored when the file is decompressed. Unlike GIF, PNG can be used with True Color and Grayscale output types.
- **PICT.** Apple's proprietary image file format that is used by the Macintosh operating system. Designed for the screen, this format is best used for color images that will not be printed. Images saved as PICT files are smaller in size than images saved as a TIFF files.
- **PDF.** PDF is a format useful for text, photos, and drawings. Use Adobe Acrobat® Reader to view PDF files. If no changes need to be made to the file, this file type is useful for sharing (as through e-mail) and filing because of its generally small file size. When using the Macintosh version of the scanning software, you can only create image-only PDF files; you cannot copy text from these files.

- **TIFF.** Usually created by scanners, TIFF files are widely accepted by programs that work with photographs and other images. A TIFF file is a bitmapped graphic (also called a raster graphic) and can be any resolution. TIFF image files can be used on multiple platforms.
- **TIFF compressed.** Compressed TIFF files for images are smaller than standard TIFF files.

Text or text-and-image file formats


- **HTML.** HTML is useful for text and graphics that will be viewed on the World Wide Web. When this format is selected for a scanned image containing both text and images, the text is converted to editable text and is saved as HTML, and the graphics are saved as GIF or JPEG files.
- **Rich Text.** The RTF format can be used with a page that contains text or text and pictures. The formatting of text in an RTF file can usually be retained and then interpreted by other programs.
- **Text.** Use text file format for saving only the text in the selection area. Text will be editable, unformatted, ASCII text.

Printing

The selection area is the part of the image that prints. If there is no selection border, the contents of the entire scanner bed, including blank areas, print.

Printing does not save the image to the computer. Save the scanned image to a file to use the image later.

To print

- 1 Do one of the following:
 - On the **Scan** menu, click **Print**.
 - On the toolbar, click .
- 2 In the **Print** dialog box, select the options you want and click **OK**.

Placing a scan on a website

There are many website development tools, or HTML editors, available. These applications help you develop websites, and support a variety of graphics file formats. However, not all Web browsers can display all the file formats that Web development applications support.

With the HP scanning software, you can scan your text or images, make adjustments to these scans, and then prepare them for the World Wide Web.

To scan an item for a website

To scan an item for website, use one of the following methods:

- **Drag-and-drop from the scanning software**

If your Web page development application supports drag-and-drop, you can drag the image from the Preview area of the scanning software and drop it into the open page where you want it. Some Web page applications have image editing capabilities if you want to adjust the image further. You should consult the documentation that came with the Web page development application for more information.

- **Save the image as a file**

You can save the image as a file in the scanning software, and then insert that file into your Web page development application. Remember to save it as a GIF or JPEG file.

- **Copy and paste the image**

You can use the scanning software's **Copy** menu command or icon to copy the image to the Clipboard. In the Web page development application, use the **Paste** menu command to paste the image in the Web page document.

- **Use the Scan To menu command**

You can use the scanning software's **Scan To** menu command in the **Scan** menu to scan the image to text file. Then, in the **Save** dialog box, select **HTML** in the **Format** pop-up box.

Optimizing a scan for online viewing

To optimize a scan for a Web page, be sure to do the following:

- Save scans as GIF, JPEG, or PNG files. (Most Web browsers use these file formats.)
- For color images, choose the Web Palette output type.
- Select a resolution of 72 dpi. (This resolution produces smaller file sizes than higher resolutions, and the images still look good on the computer screen.)
- Scale or resize your scan in the scanning software before inserting it into your document.

Scanning directly to a website


Share photos with other people by scanning directly to the Web. People you know can view the photos and other items by visiting your website, which will have an address you can give them. Links to the website are in English.

When you choose this destination for the first time, you will be prompted to sign up for the free website. Then, you can scan directly to the site whenever you want.

Tip

If you want to place a scan on a site other than an HP Share-to-Web site, save the scanned image as a file and then place the file on the site as you normally do.


To place a scan on a website

- 1 Do one of the following:
 - On the **Scan** menu, click **Scan To**.
 - On the toolbar, click .
- 2 Select **HP Share-to-Web** from the list and click **Scan**.
- 3 Follow the instructions on the screen to finish posting the scanned image to the website.

Copying and pasting into another program

You can copy the scanned image to the Clipboard and then paste it into a file in the destination program. After the image is pasted, it becomes a part of the file.

To copy and paste into another program

- 1 In the HP PrecisionScan Pro software, do one of the following:
 - On the **Edit** menu, click **Copy**.
 - On the toolbar, click .
- 2 In the destination program, place the cursor where you want to insert the scanned image and click.
- 3 Choose the **Paste** command in the program.

Dragging-and-dropping into another program

You can drag-and-drop a scanned image into another program if that program supports drag-and-drop. The selection area will “bounce back” to the scanning software window if you try to drop a scanned image into a program or area that does not support drag-and-drop.

To drag-and-drop into another program

- 1 Open a file in the destination program. Make sure you can see both the destination program and the HP PrecisionScan Pro software.
- 2 In the HP PrecisionScan Pro software, place the cursor over the scanned image.
- 3 While pressing the **OPTION** key, click inside the selection area and drag to the location in the destination program. Then, release the mouse button and the **OPTION** key. Wait for the scanner to perform a final scan of the image.

Dragging-and-dropping to the desktop or a folder

Scanned images you drag-and-drop to the desktop or a folder become a Scrapbook picture clipping file. The bitmap file is given a generic name such as “picture clipping.” *Subsequent images scanned to the desktop or that folder are numbered sequentially.*

To drag-and-drop to the desktop or a folder

- 1 Make sure you can see both the HP PrecisionScan Pro software and the desktop or the folder you want.
- 2 In the HP PrecisionScan Pro software, place the cursor over the scanned image.
- 3 While pressing the **OPTION** key, click inside the selection area and drag to the desktop or folder. Then, release the mouse button and the **OPTION** key. Wait for the scanner to perform a final scan of the image.

Other features and tips

The other sections in “[Scanning from HP PrecisionScan Pro](#)” provide the most common information you need to scan items every day. In this section, you can find information about:

- which settings to use to get the best image quality. (See “[Tips for best image quality](#)” on page 59.)
- how to save a group of settings you use all the time and use them with future scans when you select them. (See “[Saving settings](#)” on page 60.)
- how to change the default settings the scanner uses to scan all items. (See “[Setting preferences](#)” on page 60.)
- how to start scanning from programs compliant with TWAIN or the HP ScanJet Plug-in. (See “[Scanning from other programs](#)” on page 64.)

For information about results to expect from the OCR program, see “[What to expect from OCR programs](#)” on page 24.

Tips for best image quality

Output type, resolution, file type, and values for other controls determine image quality and file size.

When you first scan an item, the scanner chooses the defaults for output type and resolution, and you do not need to change them. If you want to change these settings or want help choosing a file type, see:

- “[To select an output type](#)” on page 33
- “[Changing resolution](#)” on page 36
- “[List of file types](#)” on page 52

Tip

For any image that will be printed, choose TIFF compressed as the file type to reduce the file size while maintaining quality. Also, many different programs recognize this file type.

Saving settings

You can save and name a group of settings that you frequently use for a particular purpose and apply them to items you scan in the future. For example, if you routinely e-mail pictures to someone, you can save the settings including the output type, resolution, and dimensions that you always use. The settings are automatically applied when you scan a picture and choose the group of settings.

Saved settings override the default settings and any changes you made up to that point. Any changes you make after that point are preserved.

To save settings

- 1 Make sure the scanned image whose settings you want to save is in the preview window and that you have adjusted any settings for the image.
- 2 On the **Scan** menu, point to **Settings**, and click **Save**. The settings for the current scanned image appear.
- 3 In the drop-down list at the bottom, type a name for these settings and click **Save**.

To use settings

- 1 Scan an item to the HP PrecisionScan Pro software.
- 2 On the **Scan** menu, point to **Settings**, and click **Load**.
- 3 Select the group of settings you want from the list at the bottom and click **Load**.

Setting preferences

The preferences are the default settings for all scans performed. To change a setting only for the item currently being scanned see ["Making optional adjustments, basic" on page 35](#) and ["Making optional adjustments, advanced" on page 39](#).

To set scanning preferences

- 1 On the **Scan** menu, click **Preferences**.
- 2 Click the tab you want.
- 3 Change any settings you want. See the next sections for descriptions of options on tabs.
- 4 When finished, click **OK**.

Scanner tab options

The **Scanner** tab of the **Preferences** dialog box controls these options.

Preview scan when HP Scanning Software button is pushed

When selected, a preview of the scan appears when you press the HP Scanning Software button on the scanner. When cleared, the software starts, but the scanner does not scan. You will start a scan from the HP PrecisionScan Pro software.

Best Quality Scaling

When selected, the highest quality scaling is applied to the final scan. When cleared, normal quality scaling is applied, making scanning faster.

Best Quality Sharpening

When selected, the highest quality sharpening is applied to the final scan. When cleared, normal quality sharpening is applied, making scanning faster.

Maximum Pixel Depth

When selected, the largest pixel bit depth is acquired from the scanner to produce the highest quality image. When cleared, less image data is processed, making scanning faster.

Noise Reduction

When selected, reduces the noise in the image caused by the scanner. When cleared, noise reduction is not applied, making scanning faster.

Descreening

When selected, a screened background image (such as a watermark) will be removed from the final scan. When cleared, any background image (such as a watermark) will be scanned as part of the image in the final scan.

sRGB Profile (Gamma 2.2)

When selected, the software uses the RGB profile from the screen to create the color in the final scan. This profile is also known as Gamma 2.2.

Note: Because Macintosh computers ship with Gamma 1.8, this option is not selected by default. When using this option, be sure to select sRGB in your monitor settings.

Enable Scan Another Page Dialog

When selected, a dialog box appears during final scanning that asks you if there are more pages of this item to scan. When cleared, the scanner assumes each job is only one page. Applies only to PDF, text, and RTF formats.

Selection Area tab options

The **Selection Area** tab controls the following preferences.

Automatically create selection area after a mouse click

When selected, a selection area will be created around an area on which you click with the cursor.

Automatically set the Output Type after selection

When selected, the software automatically determines the output type of the area inside the selection border.

Automatically adjust exposure after selection

When selected, the scanning software automatically changes the controls in the **Adjust Exposure** and **Adjust Black & White Threshold** commands to the optimal values each time you create a new selection area. Values for an image do not change if you create a different selection area while the **Adjust Exposure** or **Adjust B&W Threshold** dialog box is open.

When cleared, the scanning software does not automatically reset the controls in these two tools.

Automatically adjust color after selection

When selected, the scanning software automatically changes the controls in the **Adjust Color** command to the optimal values each time you create a new selection area. Values never change if you create a different selection area while the **Adjust Color** dialog box is open.

When cleared, the scanning software does not automatically reset the controls.

Resolution tab options

The **Resolution** tab controls the default resolution values available when you select **Resolution** on the **Tools** menu.

Default values are already set, but you can add custom resolution values or delete values. The range of resolution is 12 to 999,999. Click **Add** to add a value. Or, select a value and click **Delete** to delete that value.

Text tab options

The **Text** tab of the **Preferences** dialog box controls the following preferences related to text output from the OCR program.

Text Output (format)

- *Framed text.* Places the text from the page into frames and attempts to recreate the page formatting as closely as possible to the original. Program into which the text is placed must support this type of option.
- *Flowed text.* Eliminates column and other formatting and inserts any images in the text as closely as possible to where they were in the original.

Current OCR Language

Allows you to choose the language the OCR program uses to check words it is processing in the item.

Controls tab options

The **Controls** tab of the **Preferences** dialog box controls the control range readout to use for scanning.

The control range sets the amount of tonal resolution per color available for correction in the **Adjust Exposure** command and **Adjust Black & White Threshold** command. Using a larger number of bits for the control range results in greater control of compensation for exposure or threshold correction.

Choose one of these options:

- *8-bit readout (0-255)* — sets the controls to use 8 bits of tonal resolution per color
- *10-bit readout (0-1023)* — sets the controls to use 10 bits of tonal resolution per color
- *12-bit readout (0-4095)* — sets the controls to use 12 bits of tonal resolution per color
- *16-bit readout (0-65535)* — sets the controls to use 16 bits of tonal resolution per color

Scanning from other programs


You can bring an image directly into an open file in one of your programs if the program supports TWAIN or the HP ScanJet Plug-in. Generally, the program is compliant if it has a command such as “Acquire,” “Scan,” or “Import New Object.” If you are unsure if the program is compliant or what the command is called, see the documentation for the program.

When scanning from within a program that supports TWAIN or the HP ScanJet Plug-in, the HP PrecisionScan Pro software may start if the program allows it. If the HP PrecisionScan Pro software starts, you can make changes to the image as you normally would. If not, the image returns to the program immediately.

Tip

If your program does not support TWAIN or the HP ScanJet Plug-in, you can try to copy and paste or drag-and-drop the image into the program. Or, save the image as a file and then place the file in the program.

To scan from other programs

- 1 Start a scan from within the other program by choosing the **Acquire** (or similar) command.
- 2 If the HP PrecisionScan Pro software opens and displays the preview image, create a selection area. You can crop the scan (if necessary), select the output type, and make optional adjustments as you normally would. See the appropriate sections in this chapter for instructions.
- 3 When finished making changes to the scanned image, do one of the following to perform a final scan and place it in the program from which you started scanning:
 - On the **Scan** menu, click **Return Image To**.
 - Click .

The image appears in the open program. You might have to reposition the image.

If the image does not appear, the program might not accept the resolution or output type you selected. Rescan the image using the default settings the software sets for the image.

4

Using accessories

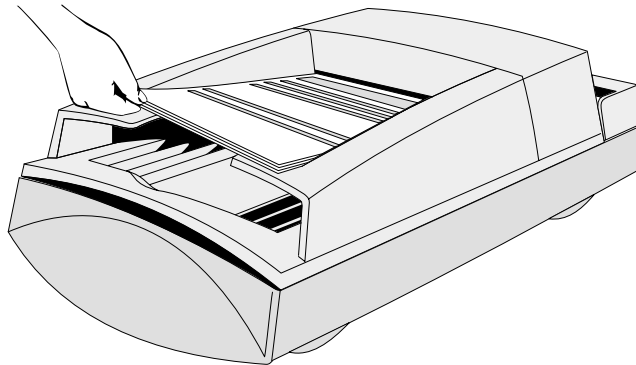
The scanner supports using the HP ScanJet Automatic Document Feeder (ADF) and the HP ScanJet Transparency Adapter (XPA) for slides, negatives, and other transparent items. These accessories are included with some scanner models or can be ordered.

Scanning from the ADF

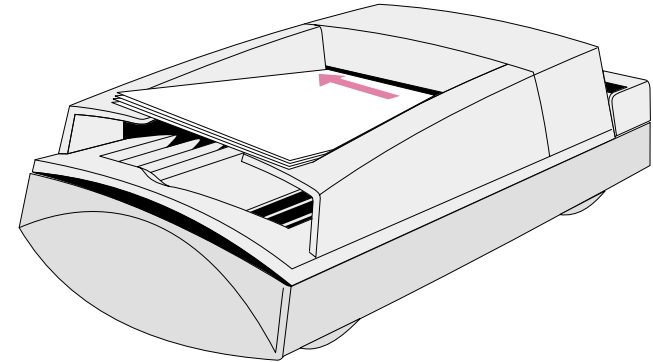
You can scan multiple-page items quickly and easily using the ADF. When you use the ADF, you can scan to the HP PrecisionScan Pro software or other destinations. For instructions on setting up the ADF, see the [Setup and Support Guide](#).

To scan from the ADF

- 1 Remove any items from the scanner glass.
- 2 Place a stack of similarly sized originals in the document input tray, face up and with the first page on top.



- 3 Push the paper stack up against the left side of the input tray. Slide the stack into the ADF until the stack does not move any farther.



- 4 Do one of the following:
 - press a button on the scanner
 - click **New Scan** on the **Scan** menu in the HP PrecisionScan Pro software
- 5 If you chose any scanner button **except** **HP SCANNING SOFTWARE**: Follow the directions on the screen to complete the scan.
If you chose the **HP SCANNING SOFTWARE** scanner button or you started scanning from the **HP PrecisionScan Pro** software:
 - a The **ADF Scan** dialog box opens and displays the current output type, resolution, and page size, which you can change. Or, you can click **Load Settings** and choose settings you have preset.
 - b To scan the item to a file, click **Scan**. Or, to scan directly to a destination, click **Scan To**, select a destination, and click **Scan**.

Scanning from the XPA

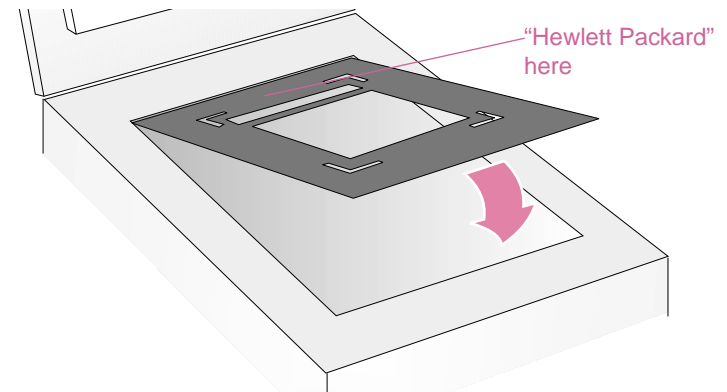
You can scan slides or negatives using the XPA. You should NOT use the XPA to scan full-size (A4 or Letter) presentation slides and transparencies. To scan these full-size items, place them on the scanner glass, place a white piece of paper on top, and scan as you normally would using the **Scanner Glass** command on the **Scan** menu.

Scanning slides

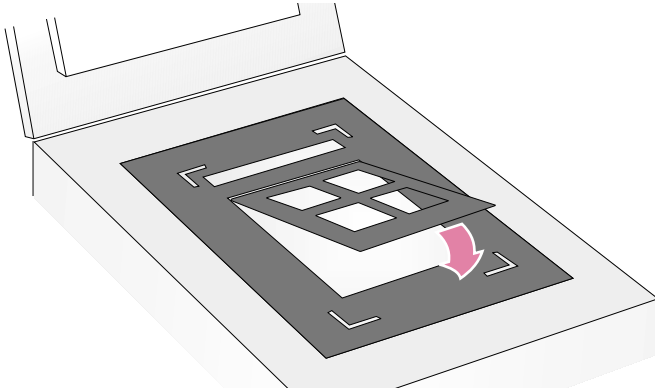
To scan standard 35 mm slides, you need the larger template and the smaller, slide template.

To scan slides

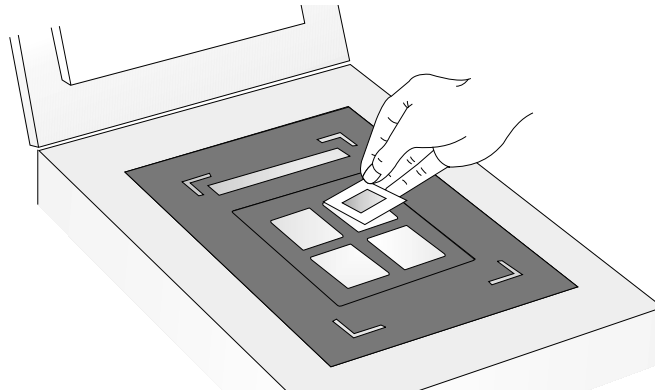
- 1 With the XPA connected to its port on the scanner, restart the software.
- 2 Place the large template on the scanner glass so the wording “Hewlett Packard” is at the top, or closest to the hinged portion of the lid.



- 3 Place the slide template in the cutout of the large template.

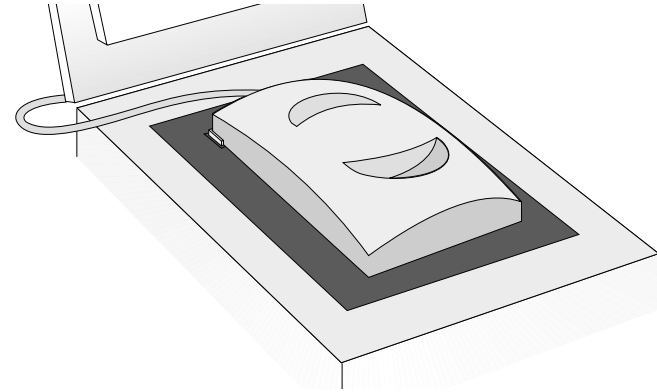


- 4 Place up to four slides, one in each slot, in the template.



- 5 If you are not using all of the slots in the template, cover the empty slots with the knock outs from the template to ensure best image quality.

- 6 Place the XPA over the large template. Align the XPA to fit in the corner cutouts on the template.



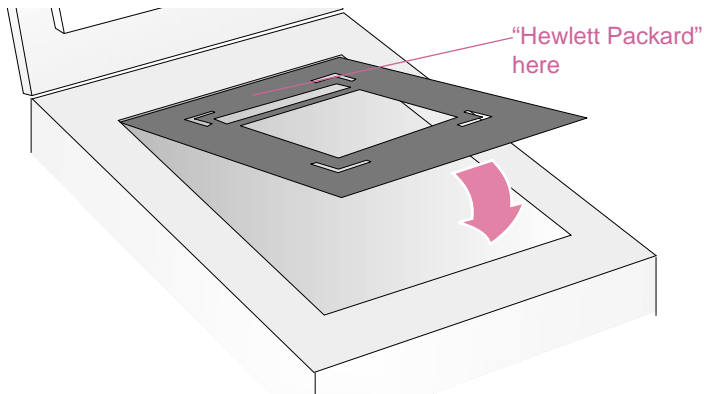
- 7 On the **Scan** menu, click **XPA (Slides)**.
- 8 Before making any changes, see ["Making optional adjustments for transparent items" on page 72](#).
- 9 When finished using the XPA, on the **Scan** menu, click **Scanner Glass**. Disconnect the XPA if you want.

Scanning negatives

To scan negatives, you need the larger template and the negative template.

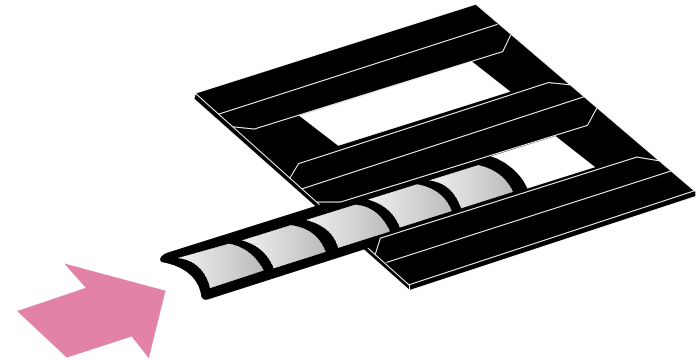
To scan negatives

- 1 With the XPA connected to its port on the scanner, restart the software.
- 2 Place the large template on the scanner glass so the wording "Hewlett Packard" is at the top, or closest to the hinged portion of the lid.



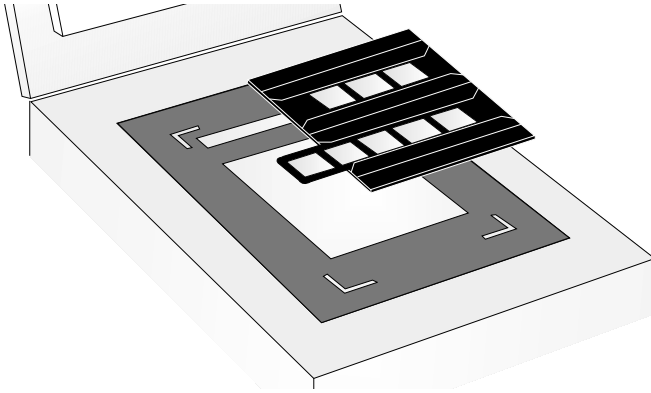
- 3 Slide the strip of negatives into the negative template. **Place the negative with the curve on top.**

CAUTION Negatives are easily damaged. Touch them only by the edges.

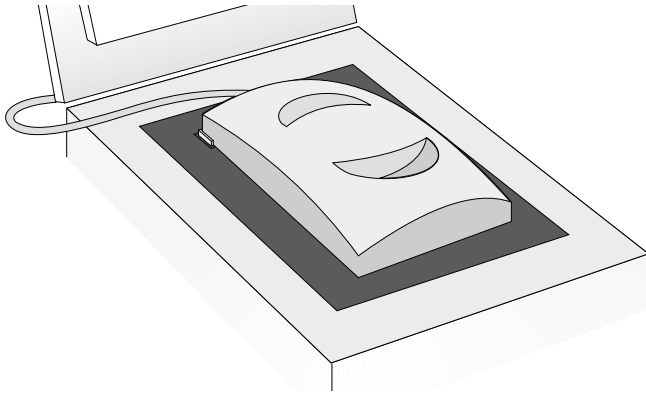


- 4 Cover any slots you are not using with the knock outs from the template to ensure best image quality.

- 5 Place the negatives template in the cutout of the large template. The graphic on the negatives template should be facing up and closest to the front (non-hinged) portion of the lid.



- 6 Place the XPA over the large template. Align the XPA to fit in the corner cutouts on the template.



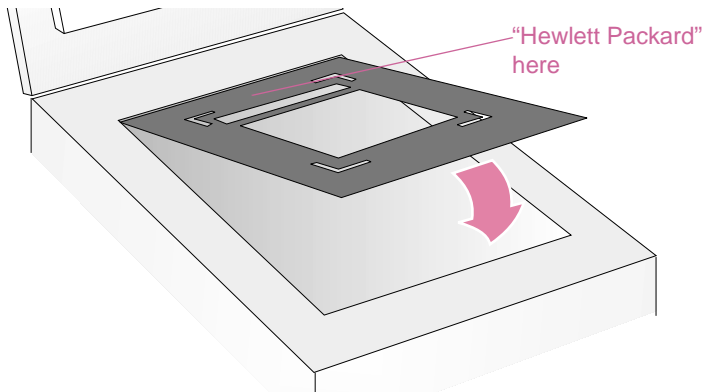
- 7 On the **Scan** menu, click **XPA (Negatives)**.
- 8 Before making changes, see ["Making optional adjustments for transparent items" on page 72](#).
- 9 When finished using the XPA, on the **Scan** menu, click **Scanner Glass**. Disconnect the XPA if you want.

Scanning transparencies

Transparencies are like 35 mm slides, only larger. When you scan them, you will use only the larger template.

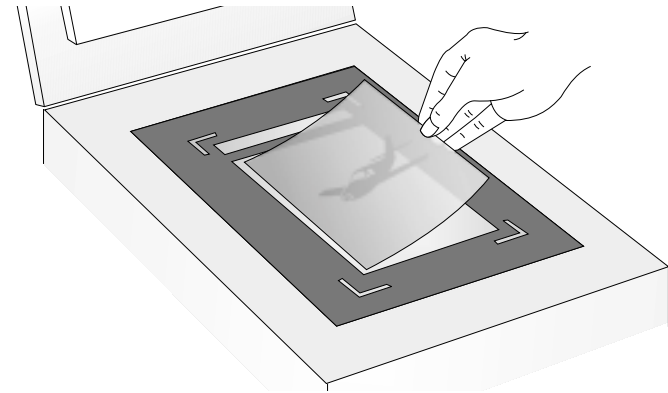
To scan transparencies

- 1 With the XPA connected to its port on the scanner, restart the software.
- 2 Place the large template on the scanner glass so the wording "Hewlett Packard" is at the top, or closest to the hinged portion of the lid.

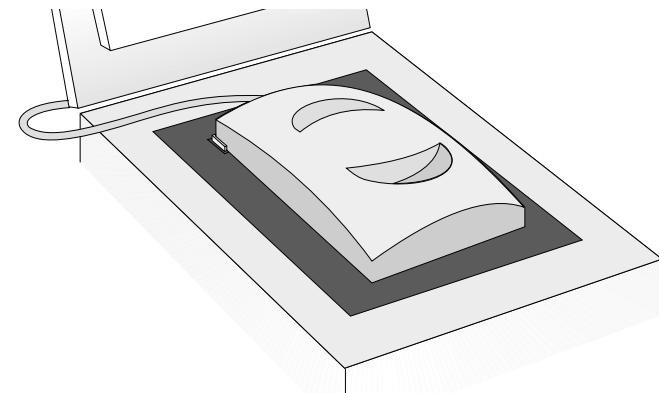


- 3 Place the transparency in the cutout in the large template.

CAUTION Transparencies are easily damaged. Touch them only by the edges.



- 4 Cover any gaps around the edges of the transparency.
- 5 Place the XPA over the large template. Align the XPA to fit in the corner cutouts on the template.



- 6 On the **Scan** menu, click **XPA (Slides)**.
- 7 Before making changes, see ["Making optional adjustments for transparent items" on page 72](#).
- 8 When finished using the XPA, on the **Scan** menu, click **Scanner Glass**. Disconnect the XPA if you want.

Making optional adjustments for transparent items

You can make optional adjustments to transparent items scanned using the XPA. **Before deciding to make adjustments, create a selection area around one slide or negative so the software exposes it correctly.** See ["Cropping or selecting an area for final scan" on page 32](#).

If you choose to make adjustments to the image after you create a selection area, make most of them as you normally would, except for the following adjustments:

- Midtone. See ["Adjusting midtones for transparent items" on page 73](#).
- Highlight. See ["Adjusting highlights for transparent items" on page 73](#).
- Shadow. See ["Adjusting shadows for transparent items" on page 74](#).
- RGB values and pixel color. See ["Viewing RGB values and pixel color" on page 74](#).

Tip

See ["Making optional adjustments, basic" on page 35](#) and ["Making optional adjustments, advanced" on page 39](#) to make all adjustments except the ones mentioned above.

Tip

To enlarge a slide or negative, see ["Resizing \(output dimensions\)" on page 35](#).

Adjusting midtones for transparent items

You can adjust the overall lightness or darkness of the scanned image using the midtone setting. The range for the number in the **Midtone** field is -100 to 100.

To lighten transparent items overall

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Midtone slider up.
 - Type a higher number in the **Midtone** field and press **ENTER**.

To darken transparent items overall

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Midtone slider down.
 - Type a lower number in the **Midtone** field and press **ENTER**.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click **Auto** to return the midtone, highlight, and shadow settings to the defaults for this transparent item.

Adjusting highlights for transparent items

You can adjust highlights to lighten or darken the light areas. The range for the number in the **Highlights** field is -100 to 100.

To lighten lighter areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Highlight slider up.
 - Type a higher number in the **Highlights** field and press **ENTER**.

To darken lighter areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Highlight slider down.
 - Type a lower number in the **Highlights** field and press **ENTER**.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click **Auto** to return the midtone, highlight, and shadow settings to the defaults for this transparent item.

Adjusting shadows for transparent items

You can adjust shadows to lighten or darken the dark areas. The range for the number in the **Shadows** field is -100 to 100.

To lighten darker areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Shadow slider to the right.
 - Type a higher number in the **Shadows** field and press **ENTER**.

To darken darker areas

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Do one of the following:
 - Drag the Shadow slider to the left.
 - Type a lower number in the **Shadows** field and press **ENTER**.

To return to the default settings

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Click **Auto** to return the midtone, highlight, and shadow settings to the defaults for this transparent item.

Viewing RGB values and pixel color

You can view the RGB values and pixel color for any spot in an image, color or grayscale, using the RGB Meter.

To view RGB values and pixel color

- 1 On the **Advanced** menu, click **Adjust Exposure**.
- 2 Move the cursor over the area in the item for which you want to see the values. The values appear in the RGB area. A line appears in the histogram to show you where those pixels occur.

5 Troubleshooting usage and maintaining

This section provides information for:

- Solving issues that might occur while using the scanner or HP scanning software, or issues with the appearance of scanned images. Start with [“Checking the basics” on this page](#).
- Setting scanner lamp controls. See [“Setting scanner lamp controls” on page 92](#).
- Clearing jams from the ADF. See [“Clearing jams from the ADF” on page 93](#).
- Cleaning and maintaining the scanner and accessories. See [“Cleaning and maintaining” on page 95](#).

For issues that occur during installation or the first time you scan, see the [Setup and Support Guide](#).

Checking the basics

If the scanner is not working, always perform these actions first.

- Check that the power cable is securely connected between the scanner and a live electrical outlet or surge protector.
- If the power cable is connected to a surge protector, make sure the surge protector is plugged into an outlet and turned on.
- Check that the USB or SCSI cable is securely connected between the scanner and the computer.
- Make sure the scanner is unlocked. Move the lock down to the unlocked position.
- Disconnect the power cable from the scanner and turn off the computer. After 30 seconds, reconnect the power cable to the scanner and then turn on the computer, in that order.
- If a program has frozen, close it. Press **OPTION+COMMAND+ESC**, and then click **Force Quit**.

If these steps did not resolve the issue, see [“Starting troubleshooting” on page 76](#).

Starting troubleshooting

Start here to find the information you need. Choose one of these general groups of issues, and then choose one of that group's more specific issues.

The scanner or software is not working.

- A message is on the scanner or the computer. Follow the directions in the message to resolve the issue.
- There is no message. See ["Resolving issues that did not generate messages" on page 77](#).

The quality of resulting scans is not what I expected.

- Scanned images do not look good. See ["Resolving issues with scanned images" on page 79](#).
- Printed copies do not look good. See ["Resolving issues with printed copies" on page 82](#).
- Text on images is not editable. See ["Resolving issues with editable text" on page 85](#).
- Slides or negatives do not look good. See ["Resolving issues with slides and negatives" on page 84](#).

Scans are not arriving at the destination I choose.

See ["Resolving issues sending to destinations" on page 87](#).

I am having an issue with the XPA or ADF.

- Pages are jammed in the ADF. See ["Clearing jams from the ADF" on page 93](#).
- There is an issue with the ADF, other than pages jamming. See ["Resolving issues with the ADF" on page 91](#).
- There is an issue with the XPA. See ["Resolving issues with the XPA" on page 90](#).

Resolving issues that did not generate messages

If the scanner or software is not working but no message appears, look for the cause and solution in this section.

Items you scanned previously are no longer on the computer.

The scanned image might not have been saved as a file. If you send an image directly to a destination, the scanned image is not saved on the computer. Use the **FILE** button on the scanner, or save files using the HP PrecisionScan Pro software.

The scanner lamp stays on.

The scanner lamp stays on as long as the software is running and might stay on for a while after the software is closed. This is normal, and the lamp will turn off on its own.

I saved a scanned image to a file, but now I cannot open the file in the program I want.

You might have saved the file in a format the other program cannot use. Save the file in a different format the program can use. Look in the **File Open** or **Import** command for the program to see which file types it supports.

The scanner is not working.

One or more of these issues might be causing the problem:

- The scanner was not installed properly.
- The SCSI card or drivers were not installed properly.
- The SCSI card or cable is not compatible with the scanner.
- The scanner address is not properly set, or multiple SCSI devices are set to the same address.
- If the scanner is emitting a grinding sound, the scanner is locked.

See "[Checking the basics](#)" on page 75 and the [Setup and Support Guide](#).

The scanner does not scan right away.

If the scanner has not been used for a while, the scanner lamp has turned itself off. Wait for a few seconds for scanning to begin.

When I press E-mail, Fax, or Edit Text on the scanner, the incorrect program opens.

- A cable might be loose. Check that the USB or SCSI cable is securely connected.
- Check which program is set to open when you press **E-MAIL**, **FAX**, or **EDIT TEXT** on the scanner. See "[Changing settings for buttons](#)" on page 25.

When I choose HP Scanning Software on the scanner, the image does not appear in the software.

- A cable might be loose. Check that the USB or SCSI cable is securely connected.
- You might have accidentally turned off the preview feature. Check this setting on the **Scanner** tab in the Preferences of the HP PrecisionScan Pro software. See "[Setting preferences](#)" on [page 60](#).
- Check that the HP PrecisionScan Pro software is the program set to start when you press **HP SCANNING SOFTWARE**.
 - 1 Choose **Control Panels** from the **Apple** menu, and then choose **HP ScanJet Controls** from the submenu.
 - 2 Click the **Buttons** tab in the **HP ScanJet Controls** dialog box, and then click the **Scan** tab.
 - 3 Make sure **HP PrecisionScan Pro** is selected in the **Destinations** pull-down menu.

Scanner is scanning items very slowly.

- If you are scanning to edit text, the OCR program causes the scanner to scan more slowly, which is normal. Wait for the item to scan.
- Some default settings can cause the scanner to scan more slowly. Check the settings. See "[Setting preferences](#)" on [page 60](#).
- The resolution might be set too high. Return to the default resolution. See "[Changing resolution](#)" on [page 36](#).

The correct menu items do not appear in the HP PrecisionScan Pro software.

- If you used the ADF and then disconnected it, restart the software.
- If you were using the XPA, on the **Scan** menu, click **Scanner Glass** to scan from the glass again.
- If you are trying to use the XPA and the **XPA (Slides)** or **XPA (Negatives)** commands are unavailable, restart the software while the XPA is connected to the scanner.

The scanner is making a loud clicking or grinding noise.

The scanner is locked. Unlock the scanner. Use your finger to flip the lock down to the unlocked position.

Resolving image-quality issues

This section contains information for resolving image-quality issues, whether you scanned using the scanner glass, the ADF, or the XPA.

- [Resolving issues with scanned images](#). See this page.
- [Resolving issues with printed copies](#). See [page 82](#).
- [Resolving issues with slides and negatives](#). See [page 84](#).

Resolving issues with scanned images

This section contains solutions to issues that affect all scanned images, regardless of whether you used the scanner glass or the ADF. If you are printing, see also ["Resolving issues with printed copies" on page 82](#).

[Scanned images are too light or too dark.](#)



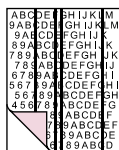
The original image might be very light or dark or be printed on colored paper. Adjust the midtone, highlight, and shadow settings from the HP PrecisionScan Pro software. See ["Scanning from HP PrecisionScan Pro" on page 29](#).

[Scanned images have black dots or streaks in top and bottom margins.](#)



There might be ink, glue, white-out, or some other substance on the scanner glass. Clean the scanner glass. See ["Cleaning the scanner" on page 95](#).

Scanned images have unwanted lines through them.



- The scanner glass might be dirty. Clean the glass. See ["Cleaning the scanner" on page 95](#).
- If you are using the ADF, there might be a page on the scanner glass. Raise the ADF unit and remove any pages on the scanner glass.
- If you are using the ADF, the ADF window might be dirty or scratched. Clean the ADF window. See ["Cleaning the ADF" on page 96](#). If cleaning does not correct the issue, the ADF window might need to be replaced. See ["Replacing the ADF Window" on page 98](#).

Scanned image is not clear.



- The resolution, sharpening, or midtone, highlight, and shadow settings might need to be adjusted before scanning. See ["Scanning from HP PrecisionScan Pro" on page 29](#).
- The original might be on colored paper. If the original was printed on a colored paper, including brown recycled paper, the image or text might not be clear. Try adjusting the resolution and midtone, highlight, and shadow settings from the HP PrecisionScan Pro software. See ["Scanning from HP PrecisionScan Pro" on page 29](#).

The image is completely black or completely white.

- The item might not be placed correctly on the scanner glass or in the ADF. Make sure that the item you are trying to scan is placed face down on the glass, or face up in the ADF.
- If you are using the ADF, there might be a page on the scanner glass. Raise the ADF unit and remove any pages on the scanner glass.
- If you are using the ADF, the ADF window might need to be replaced. See ["Replacing the ADF Window" on page 98](#).

Colors in the scanned image are different from the original item.

Scanners, monitors, printers, and different operating systems interpret color differently. Use the hue and saturation settings in the HP PrecisionScan Pro software to adjust the colors.

In the HP PrecisionScan Pro software, all of the image scanned when I only wanted part, or vice versa.

The selection area might not be selected correctly. Make sure the selection border is surrounding the area you want in the final scan.

Scanned images are crooked.

The item might have been placed crookedly or shifted when you closed the lid. Straighten the original on the scanner glass and scan again.

I thought I made the image smaller or larger before the final scan in the HP PrecisionScan Pro software, but it is still the same size as the original.

You might have zoomed in or out, which does not change the size of the image. Change the output size. See ["Resizing \(output dimensions\)" on page 35](#).

An original photo was fuzzy, and the scanned image looks even worse.

The sharpening level needs to be increased. In the HP PrecisionScan Pro software, adjust the sharpening. See ["Sharpening an image" on page 38](#).

Scanned images are grainy, jagged, or fuzzy.

- You resized the image in a program other than the HP PrecisionScan Pro software. Resize the image in the HP PrecisionScan Pro software before you send it to the other program. (See ["Resizing \(output dimensions\)" on page 35](#).)
- In the HP PrecisionScan Pro software, the resolution is set too low. Set the resolution to a higher number, or return to the default setting. See ["Changing resolution" on page 36](#).
- In the HP PrecisionScan Pro software, too much or too little sharpening was applied. Adjust the sharpening. See ["Sharpening an image" on page 38](#).

An original photo had marks, flaws, or scratches, and the scanned image looks even worse in the HP PrecisionScan Pro software.

- You sharpened the image manually. Return to the default setting. See ["Sharpening an image" on page 38](#).
- Best Quality Sharpening is selected. Check the setting. See ["Setting preferences" on page 60](#).

I set the image to a higher resolution in the HP PrecisionScan Pro software, but the output quality is no better.

- Setting the resolution to a higher number does not necessarily improve quality. The software sets the resolution automatically based on the type of item you scanned. Keep or return to the default. See ["Changing resolution" on page 36](#) or ["Tips for best image quality" on page 59](#) for guidelines.
- If you sent the image to another program, the program might not support the resolution you set in the HP PrecisionScan Pro software. Determine the setting the program uses and set the resolution in the HP PrecisionScan Pro software to that resolution.

Images scanned from the HP PrecisionScan Pro software are larger than the original when viewed or printed from another program.

The other program did not accept the image size information. Scan the image at a lower resolution. When you scan at a resolution the program accepts, it will display or print the image at the correct size.

The image is too big or too small.

In the HP PrecisionScan Pro software, set the physical width and height of the image in the **Resize** dialog box. See ["Resizing \(output dimensions\)" on page 35](#).

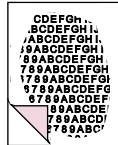
When I try to scan to the Web from the HP PrecisionScan Pro software, the image is too large or does not look good on screen.

Scan settings for this image might be set incorrectly. See ["Tips for best image quality" on page 59](#).

Resolving issues with printed copies

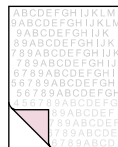
Use this section to help resolve issues with printed pages.

Parts of the page around the edges are not printing.



Printers cannot print right up to the edge of the paper. To get the image to fit inside the printable area, you must slightly reduce the size of the image in the HP PrecisionScan Pro software and then reprint the image.

Copies are too light.



- If you are copying an item printed on colored paper, there might not be enough contrast between the ink and paper colors. Adjust the highlights, shadows, midtones, and resolution settings from the HP PrecisionScan Pro software. See ["Scanning from HP PrecisionScan Pro" on page 29](#). Or, adjust the contrast from the HP ScanJet Copy Utility. Also, if possible for text, use originals printed with black ink on white paper.
- The printer might be out of toner or ink. Print a different file from another program to the printer to see if the issue lies with the printer.

Vertical white stripes appear on the page.



- The printer might be out of toner or ink. Print a different file from another program to the printer to see if the issue lies with the printer.
- The scanner internal mirror might be contaminated. Contact the Customer Service Center for service.

The bottom of the printed page is blank, or part of a graphic is cut off.



The page might be too complex. (The printer does not have enough memory to process the page.) Set the resolution of the image to 300 dpi or less in the HP PrecisionScan Pro software. See ["Changing resolution" on page 36](#).

Colors in printed images are incorrect.

The output type or printer settings might not be correct. Choose a different output type and print again. Check the printer settings. If it is a color printer, check if the printer is out of ink or toner.

Scanned images are jagged or fuzzy.

- The output type in the HP PrecisionScan Pro software might not be set correctly. Set the output type to True Color or Grayscale. See ["Selecting output type" on page 33](#).
- If you placed the image in a file in another program, resized the image, and are printing from that program, resizing the image in the program probably caused the issue. Resize the image in the HP PrecisionScan Pro software before placing it in a file in another program. See ["Resizing \(output dimensions\)" on page 35](#).
- If the original image was fuzzy and you enlarged it, the fuzziness becomes more obvious.

Resolving issues with slides and negatives

Use the following section to help resolve issues with slides, negatives, and other transparent media scanned using the XPA. All actions must be performed in the HP PrecisionScan Pro software, because you must scan slides, negatives, and other transparent items using this software. See also "[Resolving issues with the XPA](#)" on page 90.

[I tried to enlarge a scanned image of a slide, but the image remained the same size.](#)

You might have used the **Zoom In** command, which only changes the view on the screen. Use the **Resize** command to change the size of the final scanned image. See "[Resizing \(output dimensions\)](#)" on page 35.

[The colors are incorrect, or the image is too light or too dark.](#)

- The software might be setting exposure for the entire area instead of one slide or negative. Create a selection area around the slide or negative you want to use to ensure it is exposed correctly.
- The template is not placed completely on the scanner glass. Make sure the template is completely on the scanner glass.

[The scanned image shows a colored tint, usually pink.](#)

The slide was probably scanned without using the slide template, or the template was placed incorrectly. Use the included slide template to scan slides. Turn the template so the wording "Hewlett Packard" is at the top, or closest to the hinged portion of the lid.

[Scanned images appear as a box with multi-colored vertical lines or as a dashed box with an arrow surrounding the area.](#)

The template might be placed incorrectly on the scanner bed. Turn the template so the wording "Hewlett Packard" is at the top, or closest to the hinged portion of the lid.

[The scanned image is black even though the lights on the transparency adapter are on.](#)

- The template might be placed incorrectly on the scanner bed. Turn the template so the wording "Hewlett Packard" is at the top, or closest to the hinged portion of the lid.
- Check the **Adjust Exposure** command in the **Advanced** menu.

[There are streaks in the scanned image.](#)

- Check the original slide or negative for damage.
- The calibration area at the top of the large template might be scratched or blemished. If there are scratches or blemishes, turn the template over and scan again to see if the streak moves to the other side of the scan. If the streaks move, then the template needs to be replaced.

[The scans are dark or dim along one side of the image.](#)

One of the two bulbs in the XPA might be broken or not working. With the XPA connected to the scanner, hold the XPA up and look for even illumination on both sides of the XPA. If a bulb is broken, service is required.

Resolving issues with editable text

This section contains resolutions to issues that might occur when you are trying to make text editable.

Scanned text is not editable.

- If you pressed a button on the scanner, you might have chosen one other than **EDIT TEXT**. Choose **EDIT TEXT**.
- If you used the HP PrecisionScan Pro software, you sent the scan to an image file or saved the scan using an image output type. Send the scan to a text file. See "[List of file types](#)" on [page 52](#). Or open the image file from the OCR software. See the documentation for the OCR software.

Scanned text is editable in some programs but not in others.

Some programs accept only image formats and do not allow text. Make sure the program accepts editable text.

The scanner is scanning very slowly when I choose the Edit Text (OCR) option.

The OCR program causes the scanner to scan more slowly, which is normal. Wait for the item to scan.

Incorrect characters appear in the text that was converted using the OCR software.

The accuracy of the OCR program depends on the quality of the original item and the correct setting. To obtain the best possible results, choose the scan setting for text, and process only crisp, clear text. See "[What to expect from OCR programs](#)" on [page 24](#).

Converted text does not appear in my word-processing program.

Do one of the following.

- If you pressed **EDIT TEXT** on the scanner, text opens in Microsoft Word or SimpleText by default. Change which program displays the text. See "[Changing settings for buttons](#)" on [page 25](#).
- Cut and paste the text into the program you want. If the text is still not editable, work with the text as an image or retype it.

I do not know how to process text using a different OCR program.

Do one:

- Scan the item from the OCR program using TWAIN or the HP ScanJet Plug-in. See "[Scanning from other programs](#)" on [page 64](#).
- Scan the item to the HP PrecisionScan Pro software, save the scanned image as an image file, and open the file in the other OCR program.

The converted text did not retain font size and style when the text was placed in a word-processing program.

Word-processing programs cannot always accept the original formatting of the scanned text. Reformat the text in the word-processing program.

Converted text appeared in the word-processing program without its formatting and I wanted it, or vice versa.

- You can try to keep formatting (framed) or not (flowed). Change the preference to the one you want. For the **EDIT TEXT** button on the scanner, see "[Changing settings for buttons](#)" on page 25. For the HP PrecisionScan Pro software, see "[Setting preferences](#)" on page 60.
- Even if you want to retain the formatting and you have the setting set correctly, the receiving word-processing program cannot always accept the formatting. Reformat text in the word-processing program.

Resolving issues sending to destinations

Use this section to resolve issues sending images to destinations.

When I choose E-mail on the scanner, scanned images do not automatically appear in a new e-mail message.

The e-mail program is Web-based or might not be supported. Save the scanned image as a file and attach it to your e-mail message as you normally do.

When I choose E-mail on the scanner, the scanned image attaches as a bitmap, but it contains text I want the recipient to be able to edit.

To make text editable for a recipient, choose **Scan To** from the **Scan** menu, and then choose **Email** from the submenu. Select the e-mail program, and then click either **Text** or **Text and Image**. Or, save the scanned image as a file and attach it to a message as you normally do.

When I choose Fax on the scanner, scanned images do not automatically appear in my fax program.

The fax program might not be supported. Save the scanned image as a file and attach it to your fax message as you normally do.

When I press E-mail, Fax, or Edit Text on the scanner, the incorrect program opens.

- A cable might be loose. Check that the USB or SCSI cable is securely connected.
- Check which program is set to open when you press **E-MAIL**, **FAX**, or **EDIT TEXT** on the scanner. See "Changing settings for buttons" on page 25.

When printing copies from the scanner or the HP ScanJet Copy Utility, I cannot choose the printer I want.

Make sure the printer is set up and configured correctly in the Chooser. (For more information about using the Chooser, see the Mac OS Help on your computer.)

When printing copies, I can only make multiple copies of one page at a time (I cannot collate copy).

Even if you are using an ADF, each page is treated as a separate job. You can make multiple copies of one page, but not multiple copies of different pages and collate them.

When I choose HP Scanning Software on the scanner, the image does not appear in the software.

- A cable might be loose. Check that the USB or SCSI cable is securely connected.
- You might have accidentally turned off the preview feature. Check this setting on the **Scanner** tab in the Preferences of the HP PrecisionScan Pro software. See ["Setting preferences" on page 60](#).
- Check that the HP PrecisionScan Pro software is the program set to start when you press **HP SCANNING SOFTWARE**.
 - 1 Choose **Control Panels** from the **Apple** menu, and then choose **HP ScanJet Controls** from the submenu.
 - 2 Click the **Buttons** tab in the **HP ScanJet Controls** dialog box, and then click the **Scan** tab.
 - 3 Make sure **HP PrecisionScan Pro** is selected in the **Destinations** pull-down menu.

When I choose Edit Text on the scanner, text on scanned images does not appear in my word-processing program.

- By default, text opens in Microsoft Word or SimpleText. Change which program displays the text. See ["Changing settings for buttons" on page 25](#).

When I choose File on the scanner, I cannot save the scanned image in a format other than PDF.

Because the **File** option is for archiving files, the PDF format is used to keep formatting and provide a small file size. To save in a different file format, scan the item to the HP PrecisionScan Pro software and use the **Save As** command on the **Scan** menu.

I tried to scan an image into an existing file, but the scanned image appeared in a new file instead.

Some programs only allow scanned images to be placed into new files. Cut and paste the image into the file you want. Or, save the scanned image as a file and import it into the other program.

When I try to send a scanned image using the Scan To command on the Scan menu of the HP PrecisionScan Pro software, the program I want does not appear.

The HP PrecisionScan Pro software might not recognize the program as a destination. Do one of the following:

- Save the scanned image in a file type the other program uses, and then open the file in the other program.
- Copy and paste or drag-and-drop the image into the other program.
- Reinstall the program that is not being recognized. This might allow the HP PrecisionScan Pro software to recognize it.

I want to start scanning from another program, such as my word-processing program, so I can bring an image into my open file, but I cannot start the scan.

The other program must support TWAIN or the HP ScanJet Plug-in. If you cannot find a command such as **Acquire**, check the documentation for the program to see if it is compliant. If not, do one of the following in the HP PrecisionScan Pro software:

- Save the scanned image as a file and then insert the file into the other program.
- Click **Scan To** from the **Scan** menu, and choose a program.
- Copy and paste or drag-and-drop the image into the other program.

I am trying to return a scanned image to a program that supports TWAIN or the HP ScanJet Plug-in, but the image will not appear.

The program that supports TWAIN or the HP ScanJet Plug-in might not accept the resolution or output type you selected. Rescan the image using the default settings the HP PrecisionScan Pro software sets for the image.

Resolving issues with accessories

This section contains information for resolving issues when you are using the XPA or ADF.

Resolving issues with the XPA

This section contains issues that might occur when you are using the transparency adapter (XPA). See also "[Resolving issues with slides and negatives](#)" on page 84.

[The XPA is not working at all.](#)

The XPA cable might not be connected correctly. Make sure the XPA cable is connected securely to the XPA port on the scanner.

[When using the XPA, I cannot choose XPA \(Slides\) or XPA \(Negatives\) on the Scan menu.](#)

- The XPA cable might not be connected correctly. Make sure the XPA cable is connected securely to the XPA port on the scanner.
- If you connected the XPA while the HP PrecisionScan Pro software was running, restart the software. Doing so allows the software to detect the XPA.

[There is no light or only a dim light in the transparency adapter after checking XPA \(Slides\) or XPA \(Negatives\) in the Scan menu.](#)

- Make sure you have selected **XPA (Slides)** or **XPA (Negatives)** from the Scan menu in the HP PrecisionScan Pro software. If these two commands are unavailable, restart the software while the XPA is connected to the scanner.
- One or both of the bulbs in the XPA might be broken or not working. With the XPA connected to the scanner, hold the XPA up and look for even illumination on both sides of the XPA. If a bulb is broken, service is required.

Resolving issues with the ADF

This section contains issues that might occur when you are using the automatic document feeder (ADF).

[The ADF is feeding multiple sheets, skewing pages, or jamming frequently.](#)

- If the pages look like they are skewing as they feed into the ADF, check the resulting scanned images in the software to ensure they are not skewed.
- The item might not be placed correctly. Straighten the item and make sure the left edge of it is placed against the left side of the input tray.
- The maximum number of pages the ADF input and output trays can hold is 50, depending on the type of media being loaded. Make sure to load only 50 or fewer pages in the input tray, and remove pages from the output tray if they are stacking up to a pile of more than 50.
- The item loaded might not meet the specifications for the ADF. Make sure the type of media being loaded meets required specifications. See ["Items for the ADF" on page 7](#).

[When using the ADF, the scanner does not feed the item at all.](#)

The document input tray might not be securely latched. Raise the hatch and the input tray, and then lower them, pressing firmly. See ["To clear jams at the end of a page" on page 94](#) for illustrations.

[An item loaded in the ADF keeps jamming.](#)

- The item does not meet the guidelines for the ADF. See ["Items for the ADF" on page 7](#).
- The item might have something on it. Make sure you have removed anything such as staples and self-adhesive notes on the item. See ["Selecting and preparing items" on page 7](#).
- The item is too small. The ADF can handle items as small as 148.5 by 210 mm (5.9 by 8.3 inches). Use the glass to scan.
- The item is too large. The ADF can handle items as large as 216 by 355.6 mm (8.5 by 14 inches). Use the glass to scan the item in sections.

[The bottom of the scanned image is cut off.](#)

- The ADF can handle items up to 355.6 mm (14 inches) long. If the item is longer, scan it in sections on the glass. If the item is the correct length, choose the correct page size setting in the ADF dialog box prompt before scanning.
- If sent to a printer, the item might be too complex (require too much memory) for the printer to process. If possible, choose a printer with more memory. Or, select a lower resolution or different output type.

[Pages scanned from the ADF only appear as vertical lines, or all one color.](#)

There might be a page on the scanner glass. Raise the ADF unit and remove any pages on the scanner glass.

Setting scanner lamp controls

You can set the scanner lamp to use either Energy Save mode or Faster Scan mode. These scanner lamp controls are available in the HP ScanJet Controls control panel.

Energy Save mode

While in Energy Save mode, the scanner lamp stays on as long as the software is running and might stay on for a while after the software is closed. However, after about ten minutes, the scanner lamp automatically turns itself off.

Because the scanner lamp automatically turning itself off, the scanner conserves energy when Energy Save mode is enabled. (Energy Save mode is the default setting for the scanner.)

To enable Energy Save mode

- 1 Choose **Control Panels** from the **Apple** menu, and then choose **HP ScanJet Controls** from the submenu.
- 2 In the **HP ScanJet Controls** dialog box, click the **Lamp** tab.
- 3 Click **Energy Save** to select Energy Save mode.
- 4 When finished, close the **HP ScanJet Controls** dialog box.

Faster Scan mode

After the scanner lamp has turned off, it must warm up again before the scanner can begin scanning. (This warm-up process takes about 30 seconds.) As a result, the time it takes to scan an item immediately after the scanner lamp turns on is longer than the time it takes to scan subsequent items.

To help prevent scanning delays caused while the scanner lamp is warming up, you can enable Faster Scan mode. This mode allows you to set a time (such as the beginning of your business day) when the scanner lamp automatically turns itself on. The scanner lamp stays on for ten hours and then turns itself off.

Because the scanner lamp stays on, even if you are not using the scanner or the software, the scanner uses more energy when Faster Scan mode is enabled.

To enable Faster Scan mode

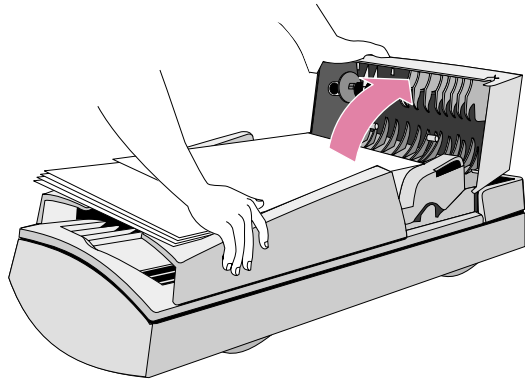
- 1 Choose **Control Panels** from the **Apple** menu, and then choose **HP ScanJet Controls** from the submenu.
- 2 In the **HP ScanJet Controls** dialog box, click the **Lamp** tab.
- 3 Click **Faster Scan** to select Faster Scan mode.
- 4 In the **Select Time** text box, type the time when you want the scanner lamp to turn on. The scanner lamp turns on at this time daily while Faster Scan mode is enabled.
- 5 When finished, close the **HP ScanJet Controls** dialog box.

Clearing jams from the ADF

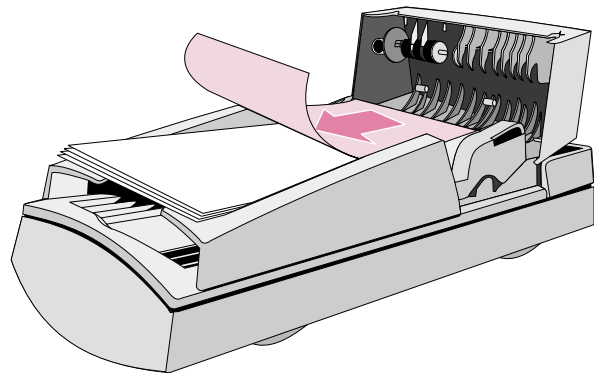
Pages can jam at the beginning or the end of a page. Use the appropriate procedure below to clear the jam and continue.

To clear jams at the start of a page

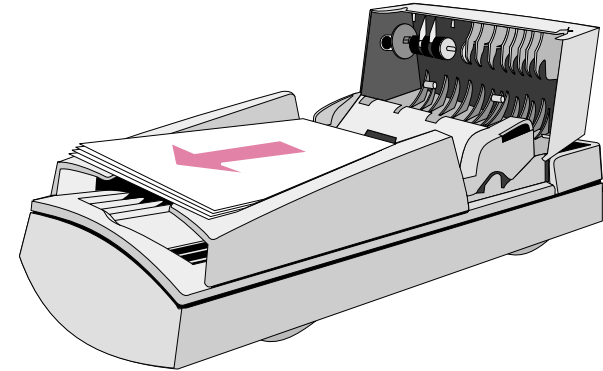
- 1 While holding down on the document input tray, raise the hatch.



- 2 Remove the jammed paper.



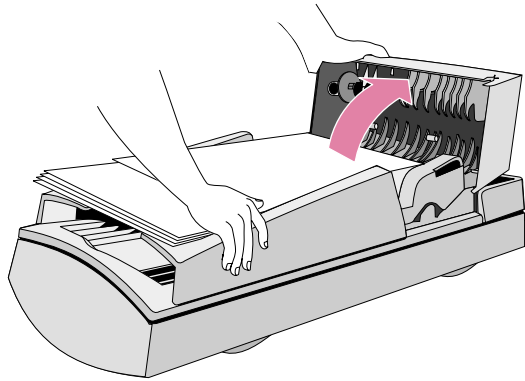
- 3 Remove the item from the ADF.



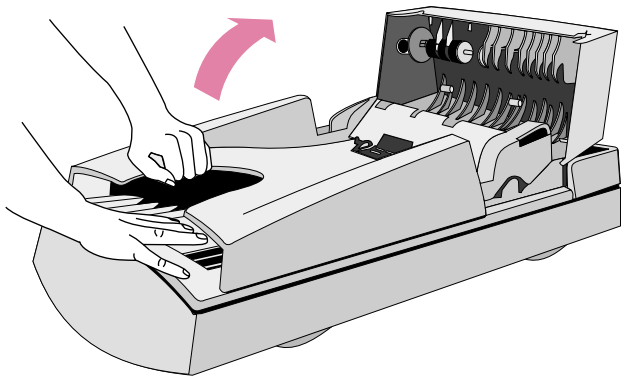
- 4 Close the hatch. Press down firmly on both sides until you hear a click.
- 5 Restack all pages and reload them into the ADF.
- 6 On the ADF prompt on the computer, reselect any settings you had changed and click **Scan To** or **Scan** again.

To clear jams at the end of a page

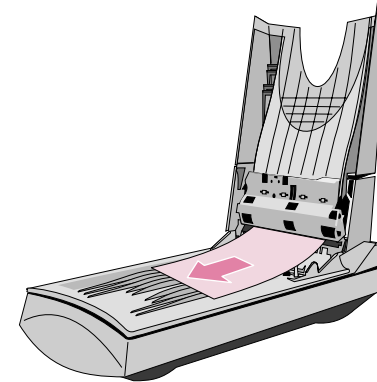
- 1 While holding down on the document input tray, open the hatch.



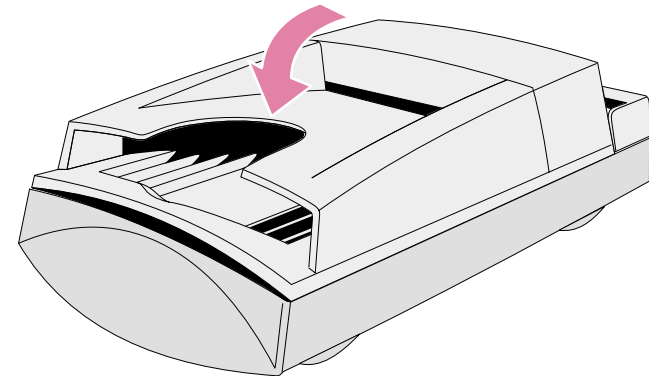
- 2 Remove any pages from the input tray.
- 3 While holding the document output tray down, open the document input tray.



- 4 Remove the jammed paper.



- 5 Close the input tray and then close the hatch. Press down firmly on both sides until you hear a click.



- 6 Restack all pages and reload them into the ADF.
- 7 On the ADF prompt on the computer, reselect any settings you had changed and click **Scan To** or **Scan** again.

Cleaning and maintaining

Periodically, the scanner and accessories might need to be cleaned or to have maintenance, especially if you are seeing marks or smudges on scanned images.

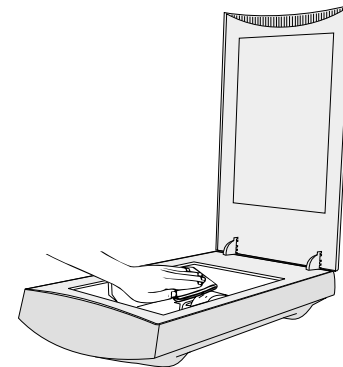
Cleaning the scanner

You might need to clean the scanner glass if the ink on items you are scanning can be smudged with your hand or items have excessive amounts of dust or dirt on them. You might also need to clean these parts if there are smudges or other marks on scanned images.

To clean the scanner

- 1 Disconnect the power cable from the scanner.
- 2 Open the scanner lid.
- 3 Clean the glass using a soft, lint-free cloth sprayed with a mild glass cleaner.

CAUTION Only use glass cleaner. Avoid abrasives, acetone, benzene, and carbon tetrachloride, all of which can damage the scanner glass. Avoid isopropyl alcohol because it can leave streaks on the glass.



- 4 Dry the scanner glass with a dry, soft, lint-free cloth.
- 5 When finished, reconnect the power cable to the scanner.

Fingerprints or smudges on the underside of the glass do not affect the appearance of scanned images because this area of the glass is outside the focal point of the scanner.

Cleaning the XPA

Clean the XPA with a dry, soft cloth. If necessary, spray the cloth with window cleaner or isopropyl alcohol.

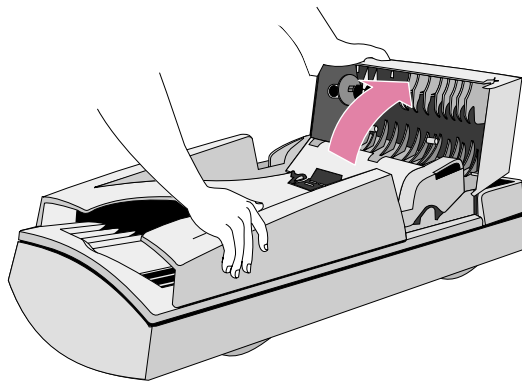
Cleaning the ADF

You must clean these parts of the ADF to maintain high-quality scanning:

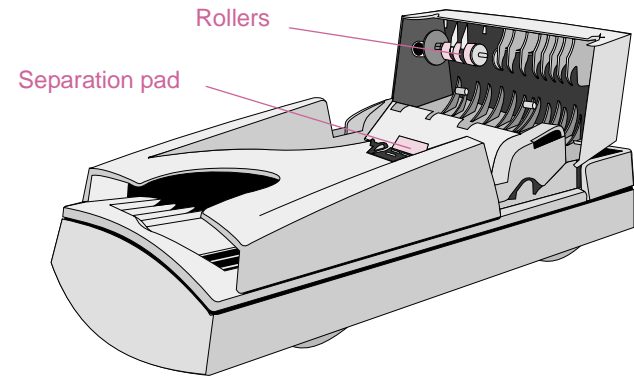
- ADF window
- gray bar above the ADF window
- rollers
- separation pad

To clean the ADF

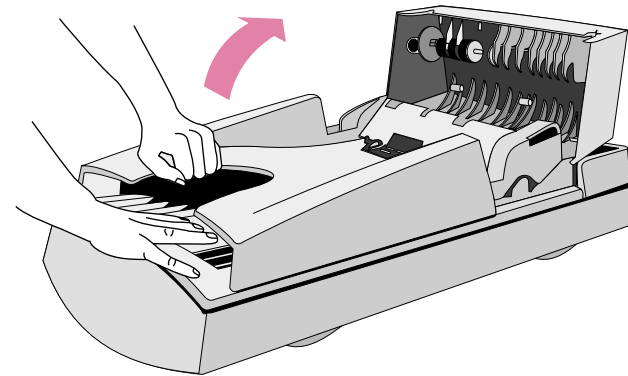
- 1 Disconnect the power cable from the scanner.
- 1 While holding down on the document input tray, open the hatch.



- 2 Wipe the rollers and separation pad with a soft, clean, lint-free cloth. You might dampen the cloth with isopropyl alcohol.

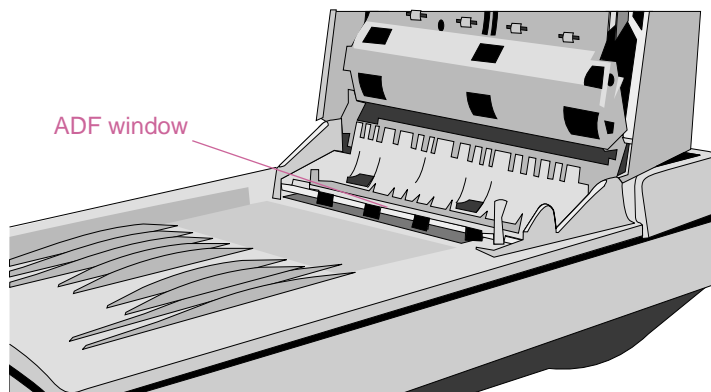


- 3 While holding the document output tray down, open the document input tray.

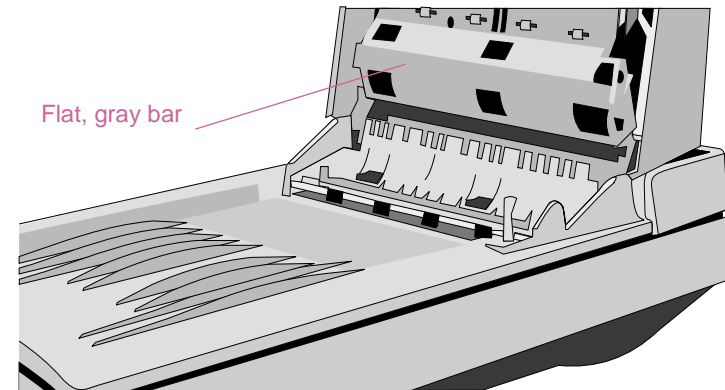


- 4 Wipe the ADF window, which is a long, clear bar. You may dampen the cloth with window cleaner, water, or isopropyl alcohol.

CAUTION Use only these cleaning fluids, and spray them only on a cloth. Using other cleaning fluids or spraying any fluids on the ADF can damage the ADF window.



- 5 Check the flat gray bar above the ADF window. The bar should be gray without black or other markings. If necessary, clean the flat gray bar.



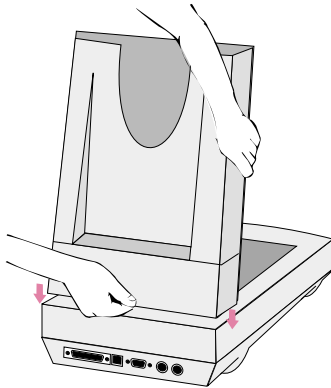
- 6 Close the input tray and then close the hatch. Press down firmly on both sides until you hear a click.
- 7 Ensure that the scanner glass is also clean. See ["Cleaning the scanner" on page 95](#).

Replacing the ADF Window

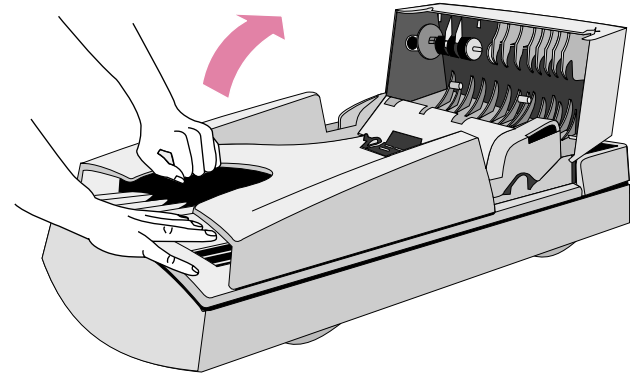
If the ADF window becomes scratched or uncleanable, you might need to replace it. Order the ADF window from Hewlett-Packard.

To remove the ADF window

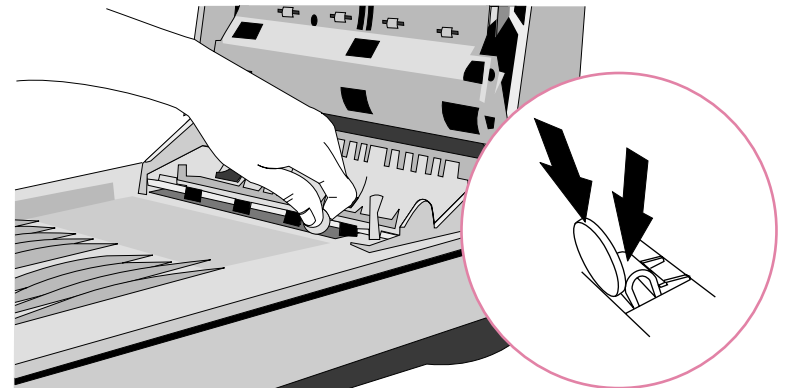
- 1 Disconnect the ADF cable from its port on the scanner.
- 2 Lift the ADF off of the scanner. Lift firmly using your fingers to separate the rear bracket from the scanner.



- 3 Lift the input tray of the ADF to expose the ADF window.



- 4 Using a small coin, push each of the four Z-shaped hooks until the tab snaps out of position. Push the long, pointed tab on the end of the window.



To install the new ADF window

- 1 Position the four Z-shaped hooks of the ADF window into the four holes on the bottom of the ADF.
- 2 Rotate the ADF window back until it contacts the bottom of the ADF.
- 3 Check that the long, pointed tab is on the inside of the ADF.
- 4 Beginning with the Z-shaped hook closest to the long, pointed tab, push each of the Z-shaped hooks toward the back of the ADF.
- 5 Verify that the long, pointed tab is on the inside of the ADF.
- 6 Reconnect the ADF cable to its port on the scanner.

Uninstalling the software

The Uninstall option of the Installer allows you to remove the scanning software from your computer.

To uninstall the software

- 1 Unplug the scanner and restart the computer.

Note: If you do not unplug the scanner and restart the computer before you uninstall the software, some files are not removed from your computer during the uninstallation.

- 2 Insert the HP Scanning Software CD into your computer's CD-ROM drive.
The HP Scanning Software window appears. (If the HP Scanning Software window does not appear, double-click the icon for the HP Scanning Software CD.)
- 3 Double-click the HP Scanning Software Installer, and then follow the instructions on the screen.
- 4 When the main installation dialog box appears, select **Uninstall** from the pull-down menu (located in the upper-left part of the dialog box).
- 5 Click **Uninstall**.
- 6 Follow the instructions on screen.
- 7 After the uninstall finishes, quit the HP Scanning Software Installer.

Other resources, support, and specifications

The [Setup and Support Guide](#) contains information about these topics:

- *Setup instructions and troubleshooting.* Find setup instructions and troubleshooting information for issues that can arise when you install the scanner.
- *Resources.* Discover websites and other tools that contain scanning tips, updated drivers, and the latest information about your HP scanner.
- *Support.* Locate the contact information for your region if you need to contact HP.
- *Warranty and Specifications.* See this topic for the warranty and product and regulatory information.

The Setup and Support Guide is located on the CD in the folder for your language, or on your computer in the HP Scanning Software folder.

A Using software commands and controls

This section contains information for using the shortcuts, toolbars, and cursors in the HP PrecisionScan Pro software.

The HP PrecisionScan Pro contains keyboard shortcuts and toolbars to give you quick access to software commands. The Info bar provides information about the scanned image. And, the context-sensitive cursors indicate the type of activity you can perform in the scanning software.

Using keyboard shortcuts and the menus






This section summarizes the menus and commands in the HP PrecisionScan Pro software that you can select using the keyboard.

Apple () menu




About HP PrecisionScan Pro

View information about the program, version, and copyright.

Scan

New Scan	 + N	Start (preview) a new scan.
Scan To...	 + T	Scan and send to a destination, such as e-mail
Return Image To		When using TWAIN or the HP ScanJet Plug-in, return the scanned image to the other program.
Save As...	 + S	Save the selection area as a file.
Page Setup...		Change how printed pages are set up, including page orientation and paper size.
Print...	 + P	Scan and print the selection area.
Scanner Glass XPA (Slides) XPA (Negatives)		Select the source from which to scan. Only one can be selected.
Settings		
Save		Save settings.
Load		Load (use) settings.
Preferences...		Change scanning default preferences.
Quit	 + Q	Close the HP PrecisionScan Pro software.

Edit

Undo Editing Changes	 +Z	Return all settings except output type to the defaults for this image.
Copy	 +C	Scan and place the selection area on the Clipboard.
Select All	 +A	Select the entire scanner glass (including blank space).
Unselect All	Esc	Remove the selection border.

View

Zoom In	Zoom in on the selection area.
Zoom Out	Zoom out to the original view.

Output Type

True Color
 Optimized Palette
 System Palette
 Web Palette
 Spot Color
 Grayscale
 Black & White Bitmap
 Automatically Set Type

Choose the Output Type. Only one can be selected.
 Allow the software to select the output type based on the contents of selection area.

Tools

Rotate Left 90°	Rotate the image counterclockwise by 90 degrees.
Rotate Right 90°	Rotate the image clockwise by 90 degrees.
Mirror	Reverse the image side-to-side.
Resize	Resize the selection area. This changes the output file size also.
Change Resolution	Change the resolution of the final scanned image.
Sharpen	Adjust the sharpening.

Advanced

Adjust Color	Adjust colors (hue) and their intensity (saturation).
Adjust Exposure	Adjust the contrast (midtones), detail in light areas (highlights), and detail in dark areas (shadows).
Adjust Black & White Threshold	Adjust which values in the image will be represented as black or white.
Invert Colors	Make colors in the image their opposites.
Descreen	In the scanned image, reduce the appearance of undesirable patterns that are in a printed original.

Help






About Balloon Help...	Display instructions for using the Mac OS Balloon Help.
Show Balloons Hide Balloons	Turn on and turn off Balloon Help. If you are using Balloon Help, Hide Balloons appears. If you are not using Balloon Help, Show Balloons appears.
User's Manual	View the printable user's manual in PDF format.
HP ScanJet on the Web	Connect to the Internet and visit the HP ScanJet website.
Product Tour	View the product tour.
Enable All Smart Friends	Allow helpful alerts to appear when potential problems arise.
Disable All Smart Friends	Prevent helpful alerts from appearing when potential problems arise.
HP PrecisionScan Pro Help	View the Help for the HP scanning software.

HP PrecisionScan Pro tool and information bars

The HP PrecisionScan Pro software contains a toolbar and an Info bar to help you use commands quickly or find information about the current scanned image.

Toolbar

The HP PrecisionScan Pro software displays a toolbar containing shortcut buttons for common commands.

Click this button		To
	New Scan	Start (preview) a new scan.
	Scan To...	Perform a final scan and send to a destination, such as e-mail.
	Save As...	Save the selection area as a file.
	Print	Scan and print the selection area.
	Return Image To...	When using TWAIN or the HP ScanJet Plug-in, return the scanned image to the other program.
	Copy	Scan and place the selection area on the Clipboard.
	Zoom In	Zoom in on the selection area.
	Zoom Out	Zoom out to the original view.
	Rotate Left 90	Rotate the image counterclockwise by 90 degrees.
	Rotate Right 90	Rotate the image clockwise by 90 degrees.
	Undo Editing Changes	Return all settings except output type to the defaults for this image.

Info bar






The info bar appears at the bottom of the preview window and displays the following information:

- A** the width of the output image
- B** the height of the output image
- C** scale of the output image
- D** the Output Type currently selected
- E** One of the following:
 - A progress bar that shows when the scanner is scanning or the scanning software is processing a command.
 - The number of KB (kilobytes), MB (megabytes), GB (gigabytes), or TB (terabytes) in the image in the selection area. This size is only an estimate of the actual size of the saved file, which depends on the format used to save the file. The file can be larger or smaller than the value shown here.
- F** an XPA icon (if the **XPA (Slides)** or **XPA (Negatives)** menu commands are selected in the **Scan** menu)


Context-sensitive cursors

The shape of the pointer indicates the type of activity you can perform in the scanning software.


Selection area cursor

New selection area		Draw a new selection area.
Move selection area		Drag the selection area to a new location in the preview area. Drag the selection area to another program. Press OPTION and drag the selection area to the desktop or a folder.
Resize selection area horizontally		Appears on the sides of the selection area. Drag the cursor to resize the width of the selection area.
Resize selection area vertically		Appears on the top or bottom of the selection area. Drag the cursor to resize the height of the selection area.
Resize selection area diagonally		Appears on the corners of the selection area. Drag the cursor to resize both the height and width of the selection area.




Ready cursor

Ready for activity		Click a menu item and select a command. Click a list button to select an option. Click a button to turn it on or off, or to increase or decrease a number.
--------------------	---	--

Typing cursor

Data entry accepted		Click, then type a value.
---------------------	---	---------------------------

Pixel value cursor

Highlight eyedropper		Position this cursor over a light area in the image to see its pixel value in the RGB meter and the histogram. Click on pixels to set them as the Highlight value. In the Transparency Exposure Adjustment tool, click to set the RGB value.
Shadow eyedropper		Position this cursor over a dark area of the image to see its pixel value in the RGB meter and the histogram. Click on pixels to set them as the Shadows value.
Eyedropper and the "no" symbol		Indicates this area is an area in which pixel value is not available.

B Glossary

symbols

8-bit grayscale

Used to represent black-and-white photos accurately. These grayscale images contain 256 shades of gray.

24-bit color

Color images composed of three 8-bit color channels. When combined, the red, green, and blue channels provide up to 16 million colors. This is also referred to as *true color*.

a

acquire

A command offered by programs that support TWAIN. Selecting Acquire takes the user directly to a selected scanning software, and then returns the scanned image to the requesting program.

active program

The program you are currently using or that is currently selected. A program's title bar changes color to distinguish active from inactive programs.

ADF

See *automatic document feeder*.

Active XPA

Or XPA. See transparency adapter.

aliasing

The visibly jagged steps along angled lines or object edges that result from sharp tonal contrasts between pixels. Seen in both black-and-white images and color images. Sometimes called 'jaggies'.

anti-aliasing

A technique that smooths transitions between pixels, reducing the jaggedness of curved lines.

approximate size

Reflects the amount of disk space a scan would require if saved to your computer. Approximate Size value does not apply if the Output Type for the scan is set to text; it only applies to an image representation of the scan.

auto(matic) cropping

Automatic cropping displays only the item(s) detected on the scanner bed, not any of the surrounding area.

automatic document feeder

Abbreviated ADF, it is an optional accessory that allows users to scan multiple pages.

Auto(matic) resolution

A feature of the scanning software that automatically applies the optimal output resolution to the selection area. For example, output resolution is automatically set to 200 when the True Color output type is selected, and set to 300 for the Black & White Bitmap (raster) output type.

b

bit depth

The number of bits used to define the shade or color of each pixel in an image. A 1-bit image is black and white. An 8-bit grayscale image provides 256 shades of gray. An 8-bit color image provides 256 indexed colors and is associated with a specific palette or color table. A 24-bit image provides over 16 million colors. The greater the bit depth, the larger the size of the saved file. *See also* file size.

bitmap

A type of black-and-white, gray, or color image or picture made up of a matrix of individual pixels or dots. Often referred to as raster, raster bitmap, or raster image.

black-and-white bitmap

Black-and-white raster bitmaps contain only black pixels and white pixels, no colors or shades of gray. Each pixel represents one bit.

Black & White Threshold tool

The Black & White Threshold tool lets you change the dividing point for black-and-white pixels in an image that uses the Black & White Bitmap (raster) output type. All pixels below the threshold will be output as black, and all pixels above the threshold will be output as white.

border

A line surrounding the scanned image indicating scanning boundaries. Clicking the image reveals a selection border and handles that are used to define the scanning region.

brightness

The balance of light (highlights) and dark (shadows) in an image. In black-and-white images, the lower the brightness, the closer the image will be to black. The higher the brightness, the closer the image will be to white. Brightness should not be confused with contrast, which measures the range between the darkest and lightest shades in an image. Brightness determines the intensity of shades in an image, while contrast determines the number of shades in the image.

C*click*

To press and release the mouse button once.

clipped pixels

Pixels in an image that are extremely light or extremely dark and that would lose detail when the image is printed or displayed.

CMYK

Cyan, Magenta, Yellow, Black. The color model in which all colors are composed of Cyan, Magenta, and Yellow, the primary colors of pigments like ink, plus Black. Printers use CMYK to print in color.

converted text

Text that has been rendered into digital format by an OCR program.

color balance

The preservation of balance between colors throughout the tonal range. Color balance is particularly important when scanning objects that include neutral tones (grays) or large areas of consistent color.

color channel

The red, green, and blue components from which colors are created.

color correction

The process of adjusting an image to compensate for input and output device characteristics or color flaws in the original image.

color depth

The number of colors that a monitor can display at once. Most Macintosh monitors can display in 256 grays, 256 colors, thousands of colors, and millions of colors. The higher the color depth, the more lifelike images look on screen.

color wheel

A tool used to adjust the color balance and hue.

Configure

A feature enabling users to adjust settings that determine how the scanner buttons and scanning software perform operations.

ConnectCom Solutions

The company that makes the SCSI card HP recommends for use with this scanner.

context-sensitive Help

Context-sensitive Help answers questions related to the currently displayed topic. The Help is provided in four ways: Text Labels, ToolTips, Info bar messages, and Help commands.

contrast

The range between the lightest and darkest shades in an image. An image with high contrast has few gray shades between black and white and appears to be dominated by stark light and dark tones. An image with low contrast has many shades of gray and tends to look flat and dull. Change contrast using the highlight, shadow, and midtone settings.

control range

This range determines the number of bits used for exposure compensation, shadow detail, and black-and-white threshold adjustment displays. The higher the bit depth the finer the level of control in adjusting these image manipulation functions.

crop

To eliminate portions of an image from the final scan.

custom settings

Saving settings allow users to save a set of settings used with one scanned image and reuse the settings with an image scanned in the future.

d

default settings

Predetermined settings in the scanning software that define levels on the behalf of the user. Default settings in the HP PrecisionScan Pro software are set for Output Type, Output Resolution, Color, Exposure, Black & White Threshold, and Sharpen Level. Users can override default settings.

density

The ability of a material to absorb or transmit light. The greater the density of a material or object, the more black it contains. This applies to both black-and-white images and color images.

descreen

The process of removing an unwanted pattern, such as a moiré pattern, that appears in a printed original so the pattern does not appear in the scanned image.

destination

The file, program, or hardware device where the scanned image will be used. Examples include a printer, a Web page, or an e-mail program.

device driver

Software that the system uses to communicate with devices, such as a display, printer, mouse, or scanner.

display resolution

The number of pixels that a computer monitor can display both horizontally and vertically. Screen resolutions are typically 640 x 480 (VGA), 800 x 600 (super VGA), or 1024 x 786.

dithering

The process of approximating pixel colors when reducing the color depth of an image. Dithering can improve transitions between colors when reducing a 24-bit image to 8-bit format.

document

For the purposes of this documentation, document refers to an original item containing text or both text and images. It also means an original item scanned using the automatic document feeder.

dots-per-inch

See *dpi*.

double-click

To press and click a mouse button twice in rapid succession.

dpi

Dots per inch. The number of dots in a linear inch. DPI measurements are used to describe the resolution of printers and scanners, where printed images and words are made up of a series of round dots. The greater the DPI number, the higher the resolution.

drag

To move an object on screen. Place the cursor over the image or selection area, hold the mouse button down, and move the mouse to move the object.

drag-and-drop

To move an object to a new location and keep it there. Click on the object and drag it to a new location, such as an open document in another program, and release the mouse button. When dragging-and-dropping between programs, a copy of the object is placed in the receiving program.

*e**editable text*

Text that is converted from a scanned image into characters you can modify in a word processor or other text-editing program. Depending on the capabilities of your program, you can change the font, size, style, and other attributes of editable text, as well as edit words or phrases.

e-mail

A network over which you can transfer messages and electronic files. E-mail is also sent via Internet browsers.

Export

To save a file in a particular file format for use in other programs.

exposure

The amount of light, or brightness and contrast, in an image.

*f**fax application program*

An application program for sending electronic documents to someone's fax machine or fax program. Also allows receiving of faxed documents to the computer instead of a fax machine.

file format

The format in which a scan is saved. Certain file formats enable programs such as word processors to insert, open, or import scans. Common graphics formats include JPG, GIF, and TIFF. Common text formats include plain text and RTF (Rich Text Format).

file size

The number of bytes in a file. File size of scanned images is determined by resolution, file type, output type, and scaling. To reduce the file size of photographs, for example, you could decrease bit depth or resolution.

final scan

The actual image, defined by the selection area, that is sent to a destination such as a file, a printer, the Clipboard, or another program.

final size

The approximate height and width of the final image to be scanned.

flowed text

The Flowed Text option converts output into one column, placing images as closely as possible to the appropriate text.

framed text

The Framed Text option places text and images in a frame, positioned as closely as possible to the way they appear in the original document. Text may be more difficult to edit extensively since the frames may not expand to hold additional text.

focus

Refers to the sharpness of an image.

front panel

The area on the front of the scanner hardware containing the buttons for sending an item to a destination or changing settings.

g

gamma

The contrast that affects the mid-level grays or midtones of an image. Adjusting the gamma of an image allows you to change the brightness values of the middle range of gray tones without dramatically altering the shadows and highlights. This applies to both black-and-white images and color images. The default setting of 2.2 ensures integrity among computer systems.

grainy

Refers to images, pictures, or photographs in which individual pixels are relatively large and have areas of white between them, thus reducing the overall perceived quality of the image. Graininess can occur when you scan a poor-quality original or reduce the bit depth of the scanned image by dithering or halftoning.

Graphics Interchange Format (GIF)

A graphic file format that is supported by many programs. Files saved in this format support 256 colors.

grayscale

An original or output type containing shades of gray, not just black and white. In a grayscale image, each pixel contains multiple bits of information, allowing more shades of gray to be recorded and displayed. Four bits can reproduce up to 16 levels of gray, and eight bits can reproduce 256 shades of gray. Grayscale is commonly used for black-and-white original photographs but is also effective in maintaining shading in pencil drawings.

h

halftone

An original composed of a pattern of dots that tricks the eye into seeing shades of gray or color. Halftones are common in all printed materials. Scanning halftones instead of photographic originals can result in lower final image quality.

height

The vertical dimension of a scan as it will appear at its destination.

highlights

The lightest portion of an image, usually reproduced as white on the computer screen or when printed.

histogram

A graphical representation of the concentration of pixels at each intensity or gray level in the selection area of the scanned image. Histograms help determine the optimal highlight, shadow, or threshold value of an image.

HP ScanJet Copy Utility

The software used to select number of copies, destination printer, and other copy options after a user selects the Copy option on the scanner.

HP PrecisionScan Pro software

The scanning software that HP provides for previewing an image before sending it to a destination; making changes, such as resolution, resizing, and contrast; and saving images as files.

HP ScanJet Plug-in

A Photoshop plug-in for image editor and OCR programs, which allows you to scan text and images from within these programs.

HP Scanning Software

The name of the scanner button that starts the HP PrecisionScan Pro software. See also HP PrecisionScan Pro software.

HP Share-to-Web

An automated feature that sends scanned images directly to a destination on the Web. Links are available only in English.

HTML

HyperText Markup Language. A language used in creating documents for the World Wide Web. Documents can be saved in HTML.

hue

The distinctive characteristic of a visible color that enables you to distinguish it from other colors. Six hues are especially important in photography, scanning, and printing: red, yellow, green, cyan, blue, and magenta. Hue is determined by the frequency of the wave of light that creates the color. See also saturation.

i

image

An electronic picture that can be displayed on a computer screen or saved to a disk.

image editor

A program that lets you modify bitmapped drawings and photographs.

image size

The size of the image expressed in bytes and displayed in the Info bar. File size and image size may vary, depending on the file type.

import

To bring a scanned image into a document from another program.

Info bar

A form of assistance that appears in the lower, left corner of the screen and displays the width and height of the output image, the scale percentage, the Output Type currently selected, and the size of the output image.

interpolated resolution

Resolution that is changed in the scanning software rather than in the hardware. For example, if your scanned image is 600 dpi, you might be able to enhance it to 1200 dpi in the scanning software. This is useful for enlarging small images.

interpolation

The process of increasing the resolution of an image by the addition of new pixels throughout the image, the colors of which are based on neighboring pixels.

invert

To reverse the colors in an image (for example, in a black-and-white image, black areas are turned white and white areas are turned black).

item

The physical drawing, photo, collage, etc. you place in the scanner to scan. Once it is scanned, it is referred to as an image or scanned image.

j

jagged

Refers to the uneven transition between black and white, or areas of color, in a scanned image. Jagged edges can be avoided by scanning at a higher resolution than your output device, or by not scaling the image after scanning it.

JPEG

Joint Photographic Experts Group. A compressed file format that reduces file size and enables faster file access. This format can reduce image quality and performance when the file is decompressed and recompressed.

k

keyboard shortcuts

A keystroke or combination of keystrokes that allows you to quickly accomplish common tasks.

l

landscape

The orientation of a photograph or image that is wider than it is tall. When an image is taller than it is wide, it is called portrait orientation.

m

maximum pixel depth

This option enables higher bits per pixel when the scan is sent to the software. When it is off, 8 bits per pixel are returned for grayscale and 24 bits for color. When it is turned on, 16 bits per pixel are returned for grayscale and 48 bits for color.

midtones

The gray shades of an image. Midtones are usually between 30% and 70% black. Midtone control adjusts the brightness of gray levels in the image so that the lightest and darkest portions of the image can be properly displayed on your monitor. The higher the setting, the brighter the image appears on your monitor.

millions of colors

Color images that are composed of three 8-bit color channels. When combined, the red, green, and blue channels provide up to 16 million colors. Sometimes referred to as "true color" and "24-bit color."

moiré

An undesirable pattern in color printing that results from incorrect screen angles of overprinting halftones. Moiré patterns usually result when you scan a halftone, when you scan images taken directly from a magazine, or when you scale an image in an image editor after it is scanned.

n

negative template

The cutout that comes with the optional transparency adapter that is placed on the scanning glass. Negatives are then placed in the template.

noise reduction

This option reduces the noise (unwanted specks) in an image by applying software algorithms to minimize the effects of noise in the scanner electronics.

o

OCR

See *optical character recognition*.

optical character recognition

Abbreviated OCR. A technology that recognizes letters in a scanned image and converts them into ASCII characters, or editable text.

optical resolution

The true resolution of a scanner, the resolution at which the scanner captures images. See also: interpolated resolution, resolution.

optimized palette

A palette or color table that contains the pixel colors present in an image.

original

The original document or picture to be scanned.

output

The file that is generated by the scanning process.

output dimensions

The actual height and width of an image when saved. You will not see the size changes to your image in the Preview area since image size affects only the final scan.

output type

The type of file that is generated during the scanning process. Output type reveals the bit depth of the image.

P

palette

A subset of the color look-up table that establishes the colors that can be displayed on the monitor at a particular time. The only color depth that allows multiple palettes is the 256 (or 8-bit) color setting for your monitor. At a color depth of 256 colors, each program (or even each individual image used or edited in a program) can have a different color palette.

palette flashing

The flashing that occurs when your monitor is set to a color depth of 256 colors and you switch programs. When you switch programs, the palette of the active program becomes the system palette, and all other programs redraw themselves as accurately as possible with the new colors.

PDF

Portable Document Format (PDF) format. Adobe Acrobat files use this format.

PICT

Apple's proprietary image file format that is used by the Macintosh operating system. Designed for the screen, this format is best used for color images that will not be printed. Images saved as PICT files are smaller in size than images saved as a TIFF files.

pixel

The smallest element (picture element) that can be assigned an independent color and intensity and can be displayed on a computer screen. Pixels are square dots arranged in a grid pattern to make up the images displayed on the screen.

plug-in

A module that integrates into a program to provide additional functionality. The HP PrecisionScan Pro Installer adds a Photoshop plug-in (the HP ScanJet Plug-in) for image editor and OCR programs, which allows you to scan text and images from within these programs.

PNG

Portable network graphics format. A compressed image file format suitable for the Web that might replace GIF because of copyright issues with GIF format. PNG is non-lossy compressed, supports interlacing, and can be used with the True Color output type, which GIF cannot.

pop-up menu (or list)

A menu of items that appears when you click on or pass the cursor over a command.

portrait

Orientation of a photograph or image that is taller than it is wide. An image that is wider than it is tall is called a landscape orientation.

posting scans

Term for scanning items directly to a website.

PPI

Pixels Per Inch. A measurement of resolution for monitors and scanners where the individual element is a square pixel.

preferences

Refers to a user's preferred method of using the scanner. The scanning software automatically saves certain preferences, such as the location of toolbars and the destination of a scan, that it detects during normal use of the scanner. Some preferences are restored each time the scanner is used, others are maintained only throughout a scanning session.

preview

A feature that displays a scanned image so you can view it in the scanning software. You can then select an area to be saved; make adjustments to the tone, color and size; and save the final image.

preview window

The rectangular area in the software where the scanned image is displayed.

printer resolution

A measurement of the number of dots per inch (dpi) the printer is capable of printing. Typical laser printers have resolutions of 600 dpi, typical ink printers have resolutions of 300 dpi for photographs and 600 dpi for text, while imagesetters have resolutions of 1200 or 2400 dpi. The more dots per inch, the smoother the output and the greater the number of grayscale levels and colors the device can describe.

Product Tour

The Product Tour provides an overview of the scanner's capabilities and how scanning tasks are completed. It appears each time the scanning software starts, unless it is specifically disabled. It is also available in the **Help** menu.

*q**r**raster*

A type of black and white, gray, or color image or picture made up of a matrix of individual pixels or dots. This is also referred to as a bitmap.

resolution

The measure of how many dots per inch (dpi) are scanned, displayed, or printed. The greater the dpi the greater the amount of detail that is visible, and the larger the file size. The final output device (monitor, printer) for a scanned image determines the resolution of the image. For example, if you scan a picture at 600 dpi (the optimum) and your printer is capable of printing at only 300 dpi, the printed image will be no more than 300 dpi.

RGB

Red, Green, Blue. The color model in which every color is composed of a varying amount of red, green, and blue, which are the three primary colors of light. RGB is used to display colors on a computer monitor.

rich text format

A format for text files. Rich text format preserves all formatting in the original text document. It converts formatting into instructions that compatible programs can interpret.

rotate tool

To rotate the entire scan 90 degrees clockwise or 90 degrees counterclockwise.

S

saturation

The intensity of color in a specific hue. An image with high color saturation has vivid color. A black-and-white photograph has zero saturation. *See also* hue.

scale

To reduce or increase the physical size of an image while maintaining aspect ratio (the ratio of the horizontal dimension to the vertical dimension).

scan

To capture a picture, photograph, or text as a digital electronic image using a scanner. This term also refers to the image that has been scanned.

scanning source

Scanning (or scan) sources include the flatbed, transparency-slides, and transparency-negatives.

scanner bed

The glass surface of the scanner where you place items to scan. Sometimes referred to as the scanner glass.

scanner glass

The glass surface on the scanner where you place items to scan. Sometimes referred to as the scanner bed.

scanner lid

The lid, or cover, of the scanner, which holds the original paper flat for scanning.

screen resolution

The measurement of the number of lines per inch (lpi) that a screen can display. This is usually 72 lpi.

SCSI

Small Computer System Interface. An interface that lets you attach hard disks and other high-performance peripherals to your computer.

selection area

The area inside the rectangular border drawn around a portion of the image in the Preview area. The selection area is scanned when you drag-and-drop, save to a file, copy to the clipboard, or print.

shadow

The darkest area of an image, usually reproduced as near black on the computer screen or when printed. The range between highlight and shadow determines the quality and color differentiation in the image.

sharpen

To enhance the detail in an image.

source

The program from which an image is retrieved for use in a document. Programs that support TWAIN or the HP ScanJet Plug-in pull an image from a source, such as the HP PrecisionScan Pro software.

spot color

A software function that finds large areas of color in a scanned image and applies a uniform color to the area.

sRGB

An international color standard and the default color system used for all HP peripherals, the World Wide Web, and most office software.

system palette

A palette or color table containing a Web palette plus more shades of gray and the 16 VGA colors.

*t**text*

As it relates to scanning, text is saved in the following formats: plain text, HTML, and RTF.

thresholding

The process of rendering all areas darker than a set value as black, and all areas lighter than a set value as white. Useful when converting grayscale images to black and white.

TIFF

Tagged Image File Format. A bitmapped file format for images, capable of storing up to 24-bit depth images. TIFF file format is especially appropriate for scanned images and is supported by many programs and computers.

TIFF compressed

Tagged Image File Format, compressed. A bitmapped file format for images, capable of storing up to 24-bit depth images. TIFF file format is recommended for scanned images and is supported by many programs and computers. TIFF compressed files use data compression to reduce the size of the resulting file.

tone

The overall effect produced by the combination of lighting, shade, and color.

toolbar

The area that contains buttons for a program's controls.

transparency adapter

Abbreviated as XPA. An optional accessory used to scan transparencies, negatives, and slides. An XPA connector is plugged into the scanner, and a template is used to position the transparency above the glass.

Transparency exposure adjustment

A tool in the HP PrecisionScan Pro software for adjusting the Midtones (contrast), Highlights, and Shadows for transparencies, negatives, and other transparent media.

true color

An image type that is rendered with 24-bits per pixel per color.

TWAIN

An industry-standard communications protocol for sending instructions to hardware (such as a scanner) and receiving data back from them (such as an image). If you are using a program that supports TWAIN, you can start the HP PrecisionScan Pro software directly from that program.

U

uniform scaling

A method of stretching or shrinking an image proportionately in both the vertical and horizontal directions.

USB

Universal Serial Bus. An interface for connecting peripherals, such as scanners, to a computer.

V

vector

A type of image that uses algebraic equations to define the various lines and curves of the image.

W

Web palette

A palette or color table containing red, green, and blue pixel colors that is standard for images embedded in Web pages or HTML files. It consists of 216 entries of all combinations of the values 0, 51, 102, 153, 204, and 255.

width

The horizontal dimension of your scan as it is sent to its destination.

X

XPA

See transparency adapter.

y

z

zoom scan

The ability to enlarge, or magnify, the image in the Preview area so that finer adjustments can be made to the image. This action does not enlarge the picture that is saved, printed, copied to the Clipboard, or dragged into another program.

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